MARINE CORPS COMMON SKILLS HANDBOOK

BOOK 1B
ALL MARINES

INDIVIDUAL TRAINING STANDARDS

MAY 2001

MARINE CORPS COMMON SKILLS (MCCS) HANDBOOK

BOOK 1B ALL MARINES

INDIVIDUAL TRAINING STANDARDS

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MARINE CORPS COMMON SKILLS (MCCS) HANDBOOK

FOREWORD

1. MCCS Books 1A and 1B, Individual Training Standards, are published based on MCO 1510.89A, the Individual Training Standard (ITS) System for Marine Corps Common Skills.

2. MCCS Books 1A and 1B are for all Marines. However, the annual sustainment training for MCCS Books 1A and 1B is for PVT-GYSGT, WO1-CWO2, and 2nd LT-CAPT.

3. Following each ITS, you will find a box containing the words EVALUATION GUIDELINES TO BE USED DURING TRAINING. The purpose of this box is to provide the Marine with information regarding what is expected of him or her during evaluation of the ITS. It also provides the trainer/evaluator with expanded conditions, standards, and notes to help train the Marine and assess individual proficiency. When administrative notes are included, they explain, orient, and provide additional task-specific information.

MARINE CORPS COMMON SKILLS (MCCS) HANDBOOK

BOOK 1B ALL MARINES

INDIVIDUAL TRAINING STANDARDS

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TASK: **MCCS.11.01 (CORE) PERFORM WEAPONS HANDLING PROCEDURES WITH THE M16A2 SERVICE RIFLE**

CONDITION: **GIVEN A M16A2 SERVICE RIFLE, 782-GEAR, AND DUMMY AMMUNITION.**

STANDARD: **TO ACHIEVE THE PERFORMANCE STEPS WITHOUT VIOLATING THE FOUR SAFTY RULES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a M16A2 service rifle, 782-gear, and dummy ammunition.

Standard: To achieve the performance steps without violating proper weapons safety procedures.

PERFORMANCE STEPS:

1. *Handle the weapon safely.*

a. Apply the following safety rules at all times to ensure that only the intended target is engaged.

SAFETY RULES	
1	Treat every weapon as if it were loaded.
2	Never point a weapon at anything you do not intend to shoot.
3	Keep your finger straight and off the trigger until you are ready to fire.
4	Keep the weapon on safe until you intend to fire.

b. A weapon's readiness/safety is described by one of the four conditions. The steps in the loading and unloading process take the rifle through four specific conditions of readiness for live fire.

CONDITION	**CODES**
1	Safety on, magazine inserted, round in chamber, bolt forward, ejection port cover closed.
2	Not applicable to the M16A2 rifle.
3	Safety on, magazine inserted, chamber empty, bolt forward, ejection port cover closed.
4	Safety on, magazine removed, chamber empty, bolt forward, ejection port cover closed.

c. Weapon commands dictate the specific conditions required to load and unload the rifle.

COMMANDS	
Load	Take the weapon from Condition 4 to Condition 3.
Make Ready	Take the weapon from Condition 3 to Condition 1.
Fire	Specify when a Marine may engage targets.
Cease Fire	Specify when a Marine must stop target engagement.
Unload	Take the weapon from any condition to Condition 4.
Unload Show Clear	When a second individual must check the weapon to verify that no ammunition is present before the rifle is placed in Condition 4.

2. *Clear the M16A2 service rifle.*

a. Make sure the rifle is on safe.

b. Remove the magazine.

c. Lock the bolt to the rear.

d. Visually inspect the chamber to ensure there is no ammunition present.

3. *Fill the magazine.*

a. Filling the magazine with loose rounds.

   (1) Remove a magazine from the magazine pouch.

   (2) Place the bottom of the magazine on a solid foundation.

   (3) Place a round on top of the follower.

   (4) Press down until the round is held between the follower and feed lips of the magazine.

   (5) Repeat until the desired number of rounds is inserted. The recommended number of rounds per magazine is 28 or 29. Thirty rounds in the magazine may prohibit the magazine from seating properly on a closed bolt.

   (6) Tap the back of the magazine to make sure the rounds are seated against the back of the magazine.

b. Filling the magazine using a 10-round stripper clip and magazine filler.

   (1) Remove a magazine from the magazine pouch.

   (2) Slide the magazine filler into place.

   (3) Place a 10-round stripper clip into the narrow portion of the magazine filler.

   (4) Place the bottom of the magazine on a solid foundation.

   (5) Using thumb pressure on the rear of the top cartridge, press down firmly until all 10 rounds are below the feed lips of the magazine.

   (6) Remove the empty stripper clip while holding the magazine filler in place.

   (7) Repeat until the desired number of rounds is inserted. The recommended number of rounds per magazine is 28 or 29. Thirty rounds in the magazine may prohibit the magazine from seating properly on a closed bolt.

   (8) Remove the magazine filler and retain it for future use.

   (9) Tap the back of the magazine to make sure the rounds are seated against the back of the magazine.

4. Empty the magazine.

a. Empty a magazine by hand.

   (1) Push with your thumb on the base of the top round.

   (2) Force the round out of the magazine.

   (3) Repeat until the magazine is empty.

b. Empty a magazine using stripper clip.

   (1) Place the front of the magazine parallel to the deck.

   (2) Press the second round in the magazine with the stripper clip relieving the pressure on the tension on the top round allowing it to fall out.

   (3) Continue this process until the magazine is empty.

5. Demonstrate the three weapons carries.

a. **Tactical Carry**. A Marine carries the rifle at the Tactical Carry if no immediate threat is present. The Tactical Carry permits control of the rifle while a Marine is moving; yet it still allows quick engagement of the enemy.

   (1) Place the left hand on the handguards, the right hand around the pistol grip, the trigger finger straight along the receiver, and the right thumb on top of the selector lever as shown in figure 1.

(2) Place the buttstock along the side of the body at approximately hip level.

(3) Angle the muzzle upward about 45 degrees in a safe direction.

(4) Position the muzzle in front of the eyes, slightly below eye level.

(5) Move the head and the eyes with the muzzle as it moves.

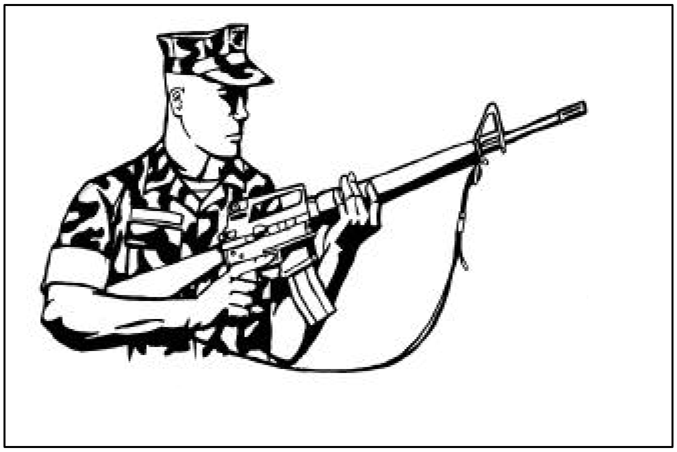


Figure 1

b. **Alert**. A Marine carries the rifle at the Alert if enemy contact is likely. A Marine can engage the enemy faster from the Alert than from the Tactical Carry. The Alert is more tiring than the Tactical Carry and its use can be physically demanding. The Alert is also used for moving in urban or other restrictive terrain where targets may appear at close quarters.

(1) Place the left hand on the handguards, the right hand around the pistol grip, the trigger finger straight along the receiver, and the right thumb on top of the selector lever as shown in figure 2.

(2) Place the buttstock in the shoulder.

(3) Angle the muzzle downward about 45 degrees and point it in a safe direction or the general direction of likely enemy contact.

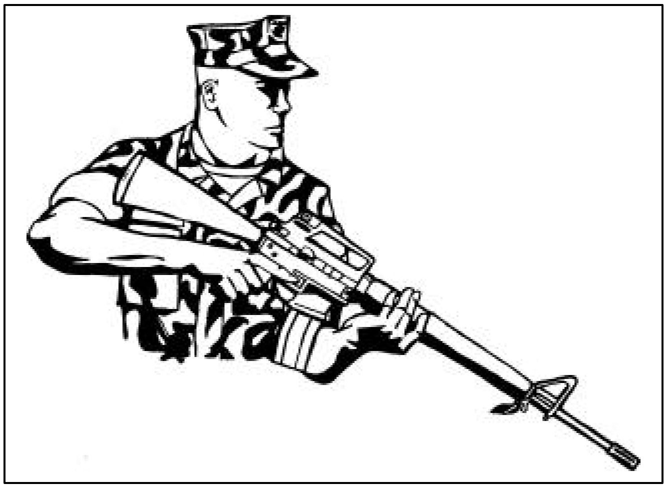


Figure 2

c. **Ready**. A Marine carries the rifle at the Ready if contact with the enemy is imminent. The Ready allows immediate target engagement, but it is very tiring to maintain over a long period of time.

(1) Place the left hand on the handguards, the right hand around the pistol grip, the trigger finger straight along the receiver, and the right thumb on top of the selector lever as shown in figure 3.

(2) Place the buttstock in the shoulder.

(3) Point the muzzle in the direction of the enemy.

(4) Lower the sights to just below eye level so that a clear field of view is maintained while attempting to identify a target.

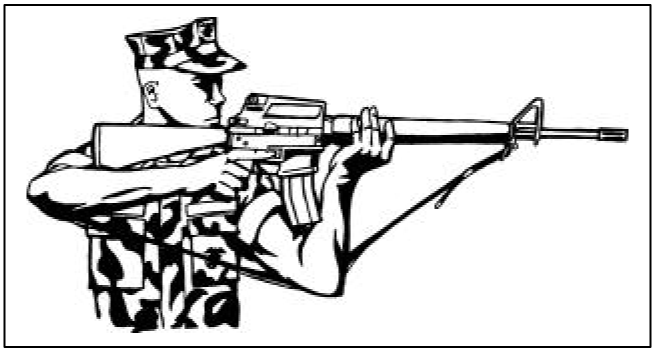


Figure 3

6. *Demonstrate the weapons transports.*

a. Weapons transports are used to carry the rifle over the back or shoulders when moving for long periods; they provide a more relaxed position for walking. Weapons transports are used if no immediate threat is present. They are also used whenever one or both hands are needed for other work.

b. Sling Arms, Muzzle Up Transport.

(1) Release the hold on the pistol grip and maintain hold on the handguard.

(2) Lower the buttstock and bring the rifle to a vertical position.

(3) With the right hand, grasp the sling above the left forearm.

(4) With the left hand, guide the rifle around the right shoulder and extend your elbow and arm through the sling.

(5) With the right hand, apply downward pressure on the sling. This stabilizes the rifle on the shoulder.

c. Sling Arms, Muzzle Down Transport.

(1) Release the hold on the pistol grip, keeping the left hand on the handguard.

(2) Lower the buttstock and bring the rifle to a vertical position. Rotate the rifle outboard until the pistol grip is pointing towards your body.

(3) Reach over your left forearm and grasp the sling with your right hand. Rotate the muzzle down while sliding your right hand up the sling toward the j-hook. Place the sling on your shoulder.

(4) Release the handguard. Grasp the sling with your left hand, and apply downward pressure to stabilize the weapon.

d. Sling Arms Transport.

(1) A Marine uses the cross body sling arms transport if he or she requires both hands for work.

(2) The rifle is slung across the back with the muzzle up or down.

(3) Normally, the rifle is carried with the muzzle down to prevent pointing the muzzle in an unsafe direction.

7. Load the rifle.

a. Ensure the weapon is in Condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine to make sure it is seated.

f. Fasten the magazine pouch.

g. Close the ejection port cover.

8. Place the rifle in Condition 1.

a. Ensure the weapon is in Condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine to make sure it is seated.

f. Pull the charging handle to the rear and release. There are two methods of doing this.

    (1) Grip the pistol grip firmly with the right hand and pull the charging handle with the left hand to its rearmost position and release.

    (2) Grip the handguards firmly with the left hand and pull the charging handle with the right hand to its rearmost position and release.

g. To ensure ammunition has been chambered, conduct a chamber check if the tactical situation permits.

h. Check the sights to ensure proper BZO setting, correct rear sight aperture, etc.

i. Close the ejection port cover, if time and situation permits.

9. Place the rifle in Condition 3.

a. Ensure the weapon is in Condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine to make sure it is seated.

f. Fasten the magazine pouch.

g. Close the ejection port cover.

10. Place the rifle in Condition 4.

a. Attempt to place the weapon on safe.

b. Remove the magazine from the rifle and retain it on your person.

c. While cupping the left hand under the ejection port, rotate the weapon until the ejection port is facing down.

d. Pull the charging handle to the rear and catch the round in the left hand.

e. Lock the bolt to the rear.

f. Put the weapon on safe if it did not move to safe earlier.

g. Ensure the chamber is empty and no ammunition is present.

h. Release the charging handle and observe the bolt moving forward on an empty chamber.

i. Close the ejection port cover.

j. Check the sights (for proper BZO setting, correct rear sight aperture, etc.). Place any ejected round into the magazine and return the magazine to the magazine pouch and close the magazine pouch.

11. Apply remedial action.

a. Perform remedial action if the rifle fails to fire. Remedial action is investigating the cause of the stoppage, clearing the stoppage, and returning the weapon to operation.

b. Once the rifle ceases firing, the Marine must visually or physically observe the weapon to identify the problem before he or she can clear it. The steps taken to clear the weapon are based on the following three indicators:

INDICATOR	STEPS
The bolt is forward or the ejector port cover is closed.	1. Seek cover if the tactical situation permits. 2. Tap the bottom of the magazine to make sure it is fully seated. 3. Pull the charging handle all the way to the rear and release it to make sure a round is chambered. 4. Sight in and attempt to fire.
The bolt is locked to the rear.	1. Seek cover if the tactical situation permits. 2. Conduct a reload. 3. Sight in and attempt to fire.
Brass is obstructing the chamber area, usually indicating a double feed or failure to eject.	1. Seek cover if the tactical situation permits. 2. Attempt to remove the magazine and lock the bolt to the rear. 3. If the bolt will not lock to the rear, rotate the rifle so the ejection port is facing down; hold the charging handle to the rear as far as it will go and shake the rifle to free the rounds. 4. If the rounds do not shake free, hold the charging handle to the rear and strike the butt of the rifle on the ground or manually clear the round. 5. Conduct a reload, sight in, and attempt to fire. **NOTE:** The most common type of stoppage is the double feed which occurs when two rounds are stuck in the receiver. A faulty magazine usually causes this.

c. An audible pop occurs when only a portion of the propellant is ignited. Audible pop is normally identifiable by reduced recoil and a lower report. This is sometimes accompanied by excessive smoke escaping from the chamber area.

(1) Place the rifle in Condition 4.

(2) Remove the bolt carrier group.

(3) Inspect the bore for an obstruction from the chamber end.

(4) Insert a cleaning rod into the bore from the muzzle end and clear the obstruction.

(5) Conduct a reload.

(6) Sight in and attempt to fire.

REFERENCE(S):

MCRP 3-01A, *Rifle Marksmanship*

AMMUNITION:

DODIC	NOMENCLATURE	INITIAL PROFICIENCY	PER ITERATION	ANNUAL SUSTAINMENT
A060	CTG 5.56MM, DUMMY	28.000 EA	28.000 EA	28.000 EA

TASK: **MCCS.11.02 (CORE) MAINTAIN THE M16A2 SERVICE RIFLE**

CONDITION: **GIVEN A M16A2 SERVICE RIFLE, CLEANING GEAR, AND LUBRICANTS.**

STANDARD: **TO MEET THE SERVICABILITY STANDARDS PER THE TM.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided an M16A2 service rifle in a safe condition and a small-arms maintenance equipment case.

Standard: The Marine must disassemble the rifle. He or she must lay out the parts on a clean surface in the disassembled sequence and must reassemble the rifle in reverse order. The Marine will clean, inspect, and lubricate thoroughly all parts of the rifle. After assembly, the Marine must engage the safety mechanism. The rifle must function properly.

PERFORMANCE STEPS:

1. *Handle the weapon safely.*

a. Apply the following safety rules at all times to ensure that only the intended target is engaged.

SAFETY RULES	
Rule 1	Treat every weapon as if it were loaded.
Rule 2	Never point a weapon at anything you do not intend to shoot.
Rule 3	Keep your finger straight and off the trigger until you are ready to fire.
Rule 4	Keep the weapon on safe until you intend to fire.

b. A weapon's readiness/safety is described by one of four conditions. The steps in the loading and unloading process take the rifle through four specific conditions of readiness for live fire.

CONDITION CODES	
Condition 1	Safety on, magazine inserted, round in chamber, bolt forward, ejection port cover closed.
Condition 2	Not applicable to the M16A2 rifle.
Condition 3	Safety on, magazine inserted, chamber empty, bolt forward, ejection port cover closed.
Condition 4	Safety on, magazine removed, chamber empty, bolt forward, ejection port cover closed.

2. *Place the rifle in condition 4.*

a. Attempt to place the weapon on safe.

b. Remove the magazine from the rifle and retain it on your person.

c. While cupping the left hand under the ejection port, rotate the weapon until the ejection port is facing down.

d. Pull the charging handle to the rear and catch the round in the left hand.

e. Lock the bolt to the rear.

f. Put the weapon on safe if it would not move to safe earlier.

g. Ensure the chamber is empty and no ammunition is present.

h. Release the charging handle and observe the bolt moving forward on an empty chamber.

i. Close the ejection port cover.

j. Place any ejected round into the magazine, return the magazine to the magazine pouch, and close the magazine pouch.

3. Disassemble the rifle.

a. Remove the sling.

b. Place the rifle on the buttstock and press down on the slip ring. Pull the handguards free (figure 1).

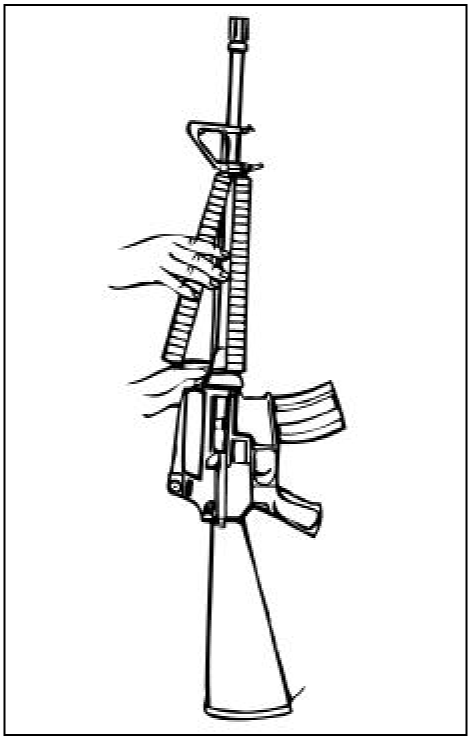


Figure 1

NOTE: Do not remove the silver metal heatshield inside the handguard during maintenance.

c. Push in on the takedown pin (left to right) as far as it will go, allowing the upper receiver to pivot away from the lower receiver (figure 2).

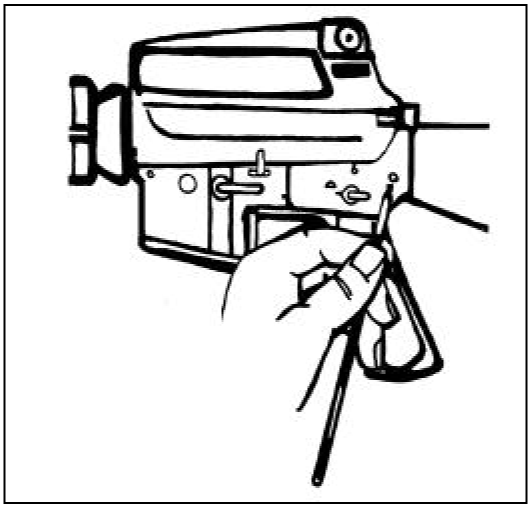


Figure 2

d. Push the receiver pivot pin (figure 3).

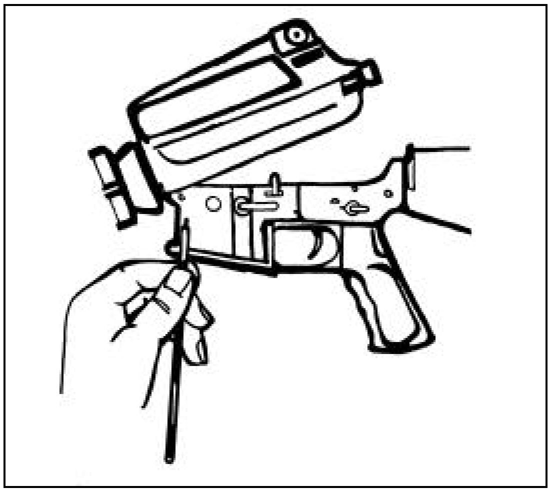


Figure 3

e. Separate the upper and lower receivers (figure 4).

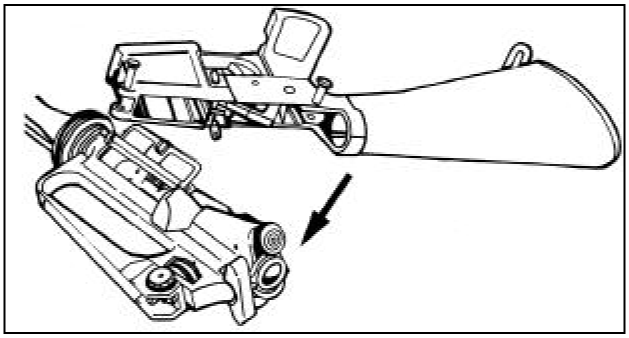


Figure 4

f. Pull the charging handle and bolt carrier back (figure 5).

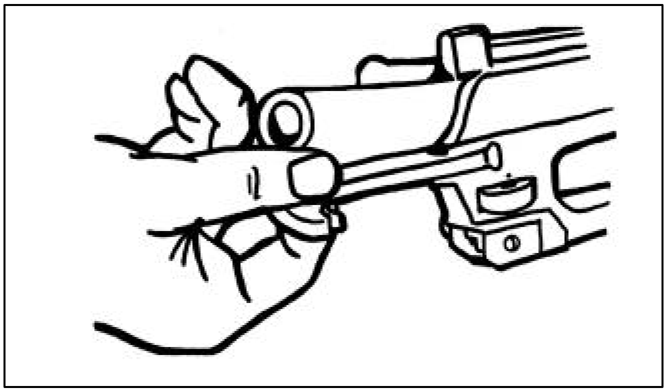


Figure 5

g. Remove the bolt carrier and bolt (figure 6).

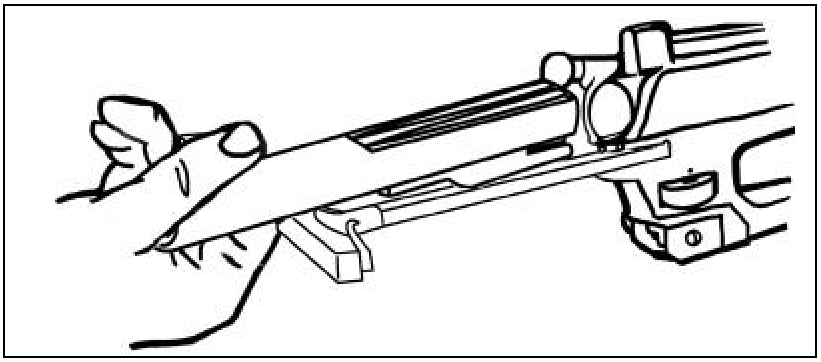


Figure 6

h. Remove the charging handle (figure 7).

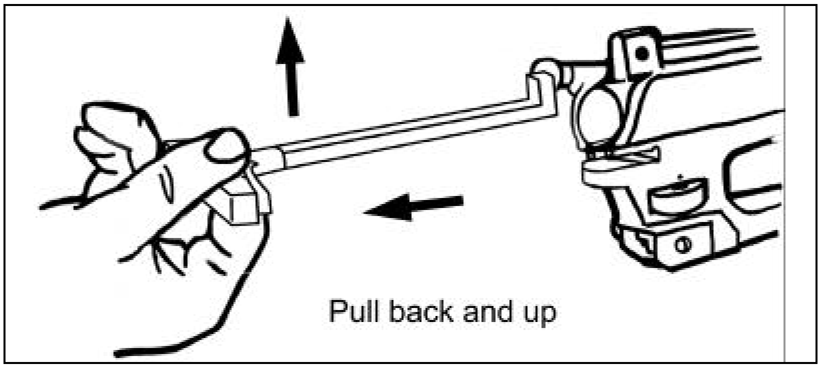


Figure 7

i. Remove the firing pin retaining pin (figure 8).

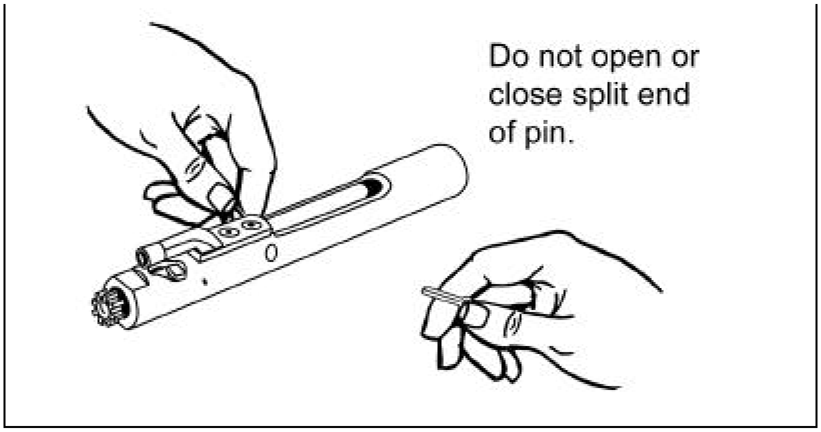


Figure 8

j. Place the bolt assembly in the locked position (figure 9).

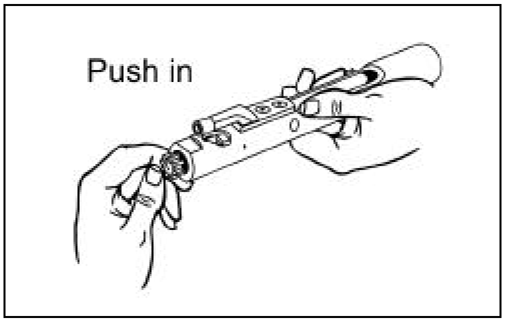


Figure 9

k. Drop the firing pin out of the rear of the bolt carrier (figure 10).

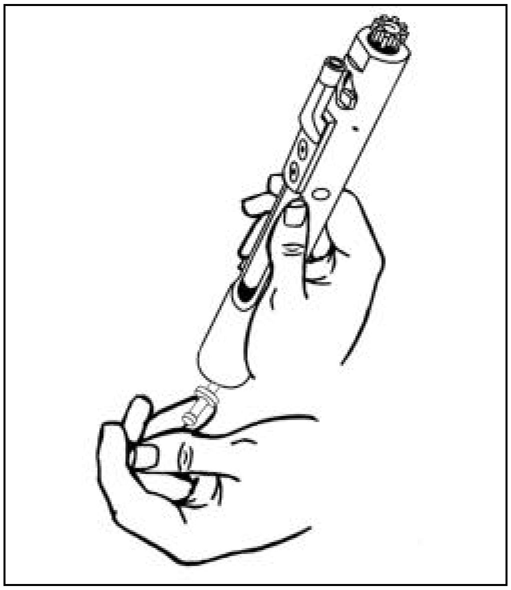


Figure 10

l. Remove the bolt cam pin (figure 11).

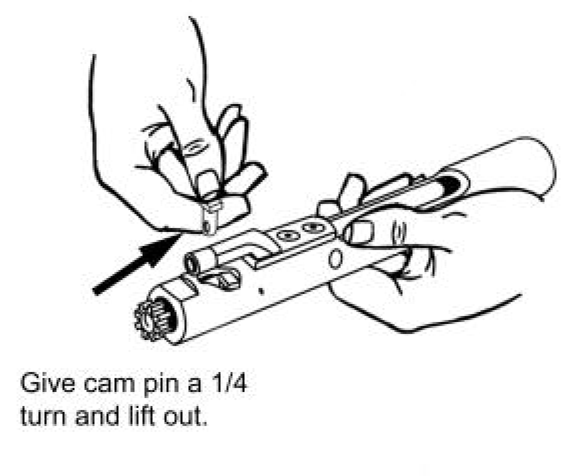


Figure 11

m. Remove the bolt assembly from the carrier (figure 12).

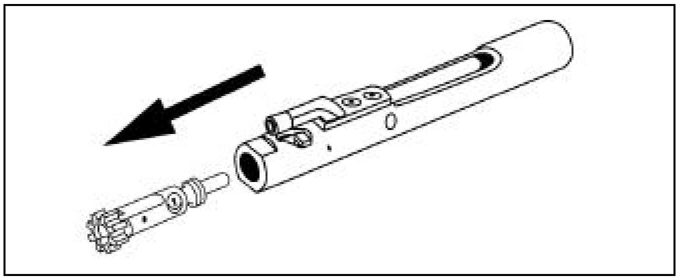


Figure 12

n. Use the firing pin to push out the extractor pin (figure 13).

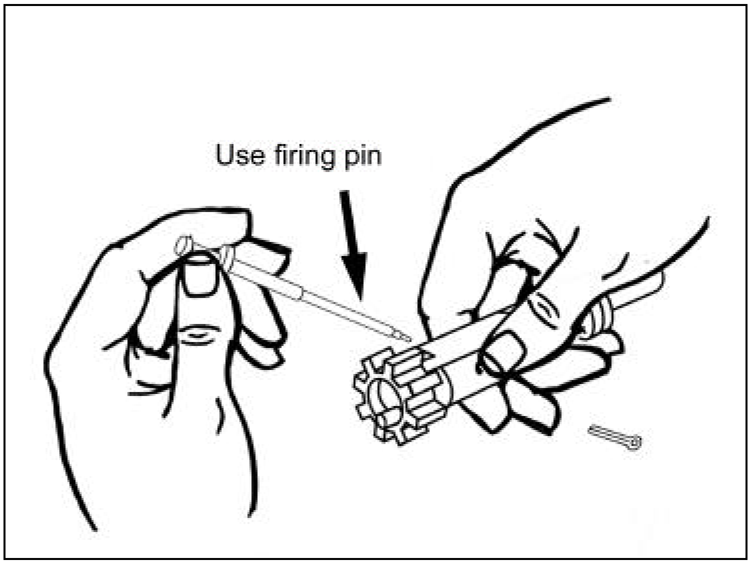


Figure 13

NOTE: Press the rear of the extractor to check the spring function. See your armorer if the spring is weak. Do not damage the tip of firing pin.

o. Remove the extractor and spring (figure 14).

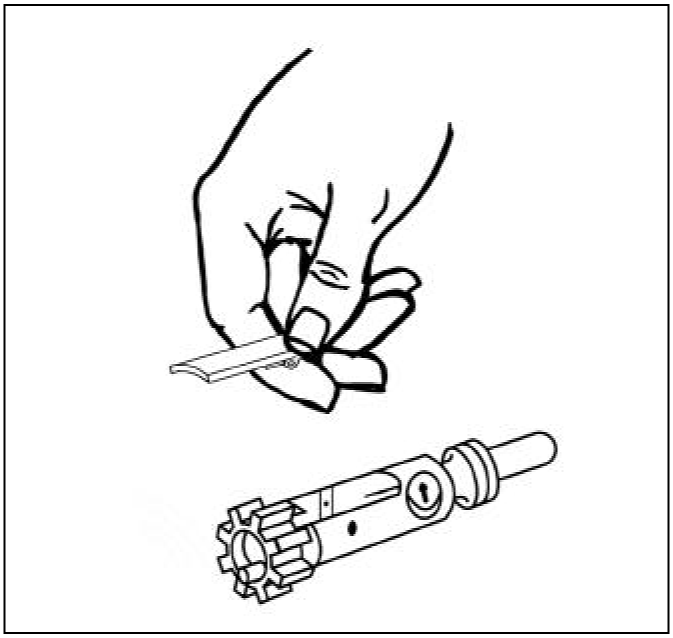


Figure 14

p. Press in buffer, depress the retainer, and release the buffer (figure 15).

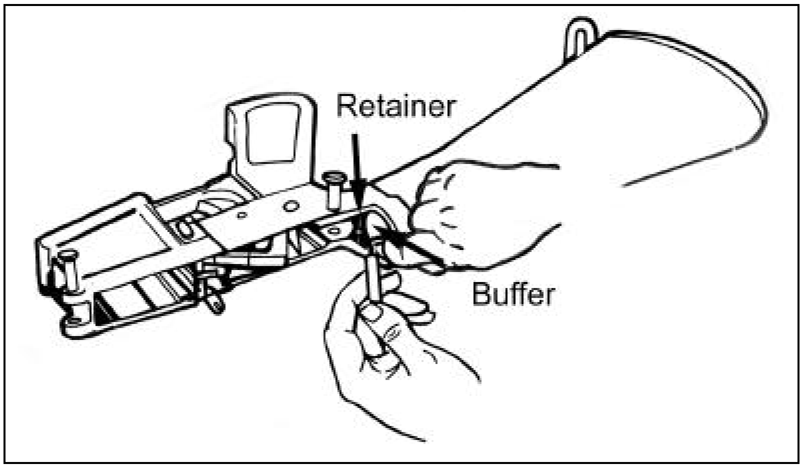


Figure 15

q. Remove the buffer and the action spring (figure 16).

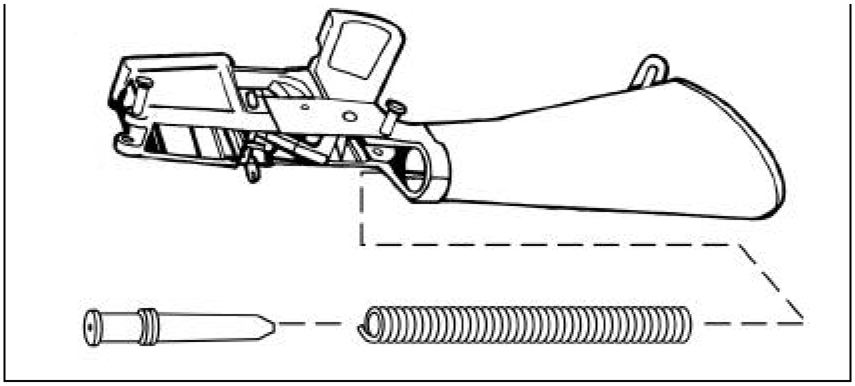


Figure 16

NOTE: No further disassembly allowed.

4. Clean the rifle.

a. Clean the bore.

NOTE: The bore of the M16A2 has lands and grooves called rifling. Rifling makes the bullet spin very fast as it moves down the bore and down range. Because it twists so quickly, it is difficult to push a new, stiff bore brush through the bore. It is much easier to pull the bore brush through the bore. Also, because the brush will clean better if the bristles follow the grooves (called tracking), allow the bore brush to turn as you pull it through.

(1) Swab out the bore with a patch moistened with approved cleaning solvent.

(2) Attach three rod sections together, but leave each one about two turns short of being tight.

(3) Attach the bore brush, but leave it two turns short of being tight also.

(4) Point the muzzle down. Hold the upper receiver in one hand while inserting the end of the rod without the brush into the chamber. Let the rod fall straight through the bore (figure 17).

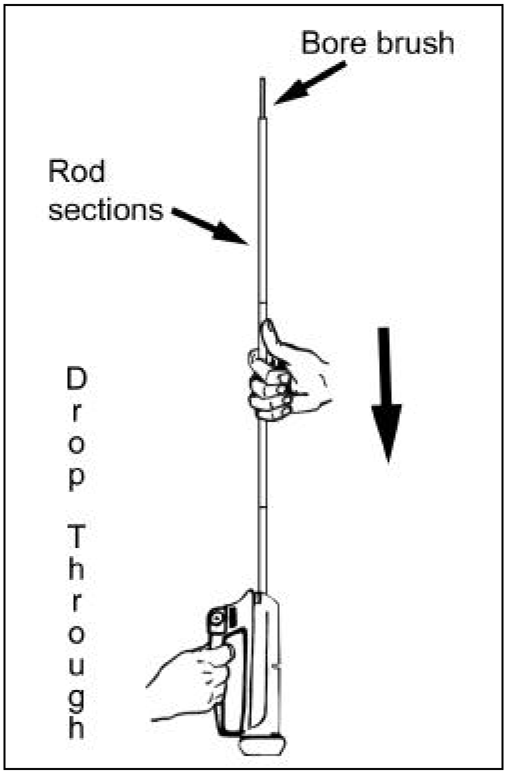


Figure 17

(5) Two to three inches will be sticking out of the muzzle at this point. Attach the handle section of the cleaning rod to the end of the rod sticking out of the muzzle (figure 18).

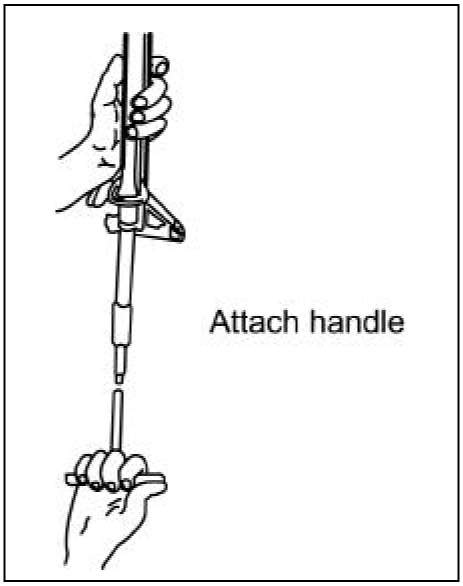


Figure 18

(6) Pull the brush through the bore and the muzzle. If you watch closely, you can see the rod twisting as you pull it.

(7) After one pull, take off the handle section and repeat the process. After three or four pulls, you will see that the three rod sections and the bore brush are screwing together. Loosen them up and repeat the process.

(8) Punch the bore with a bore patch once in a while to help clean out the carbon fouling, dirt, and other debris which the brush has loosened. You can use the same technique as described above to save time. Just replace the bore brush with the rod tip (patch holder) and a wet patch. Drop it through. You won't need to attach the handle to pull only a patch through. If you leave the rods loose again, the patch will "track" in the rifling as before.

NOTE: Always have the bore wet with cleaner before trying to pull a brush through. When using a bore brush, don't reverse direction while in the bore.

b. Clean the upper receiver.

(1) Clean the following with cleaner, lubricant, and preservative (CLP):

(a) All areas of powder fouling, corrosion, dirt, and rust

(b) Bore and chamber

(c) Locking lugs

(d) Gas tube

(2) Swab out the chamber with a patch moistened with CLP.

(3) Attach the handle and chamber brush to one rod section.

(4) Insert the chamber brush into chamber, and turn it in one direction only (figure 19).

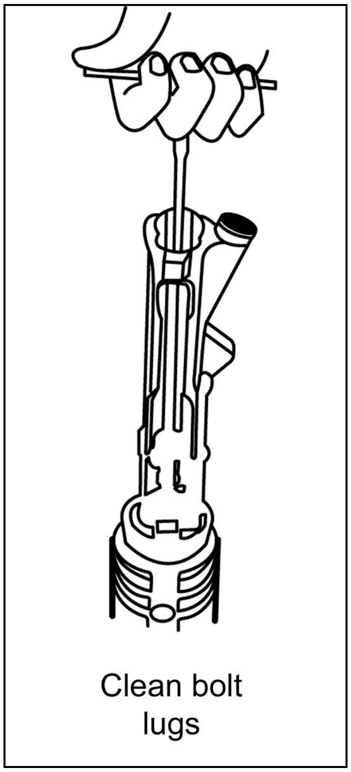


Figure 19

c. Clean the following parts of the bolt carrier group (figure 20):

(1) Outer and inner surfaces of bolt carrier

(2) Carrier key

(3) Firing pin recess and firing pin

(4) Firing pin hole (use pipe cleaner)

(5) Carbon deposits and dirt from locking lugs

(6) Areas behind bolt ring and under lip of extractor

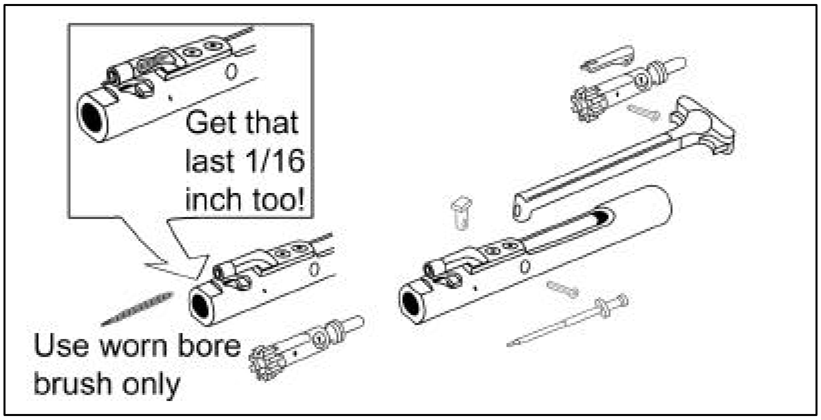


Figure 20

d. Clean the lower receiver group (figure 21).

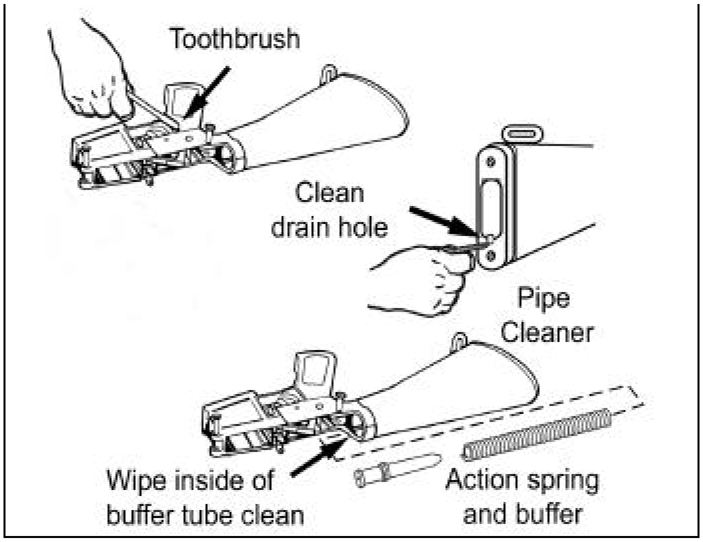


Figure 21

(1) Check all areas for powder fouling, corrosion, and dirt.

(2) Wipe the dirt from the trigger mechanism.

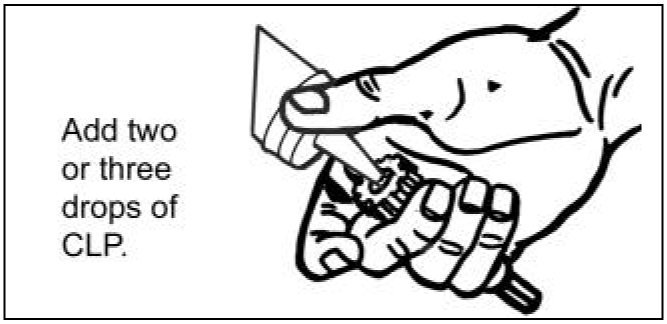
(3) Clean the buffer, action spring, and inside lower receiver extension.

CAUTION: Do not use wire brush or any type of abrasive material to clean aluminum surfaces.

e. Clean the ejector.

(1) Remove ejector from the bolt carrier. Hold it in your hands with the ejector down and the extractor up.

(2) Place a few drops of CLP around the ejector to form a puddle (figure 22).

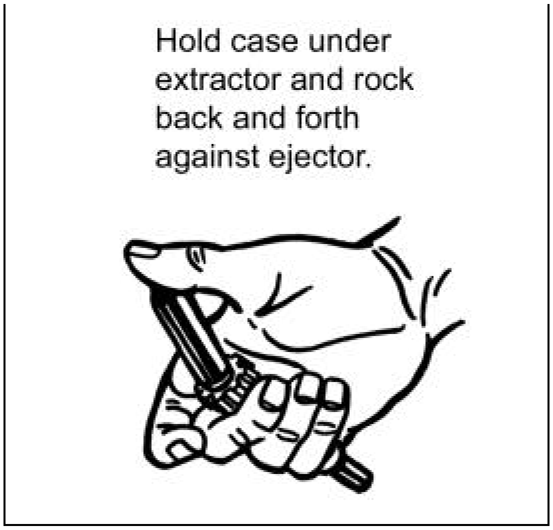


Add two or three drops of CLP.

Figure 22

(3) Place a fired or dummy case under the lip of the extractor.

(a) With a rocking motion, press the case down against the ejector (figure 23).



Hold case under extractor and rock back and forth against ejector.

Figure 23

NOTE: Because the ejector is spring-loaded, you will feel some resistance.

(b) Press on the case until it stops against bolt.

(c) Ease off with your thumb slightly, and press down again.

(d) Repeat several times.

(e) Replace the CLP frequently. Once the spring action of the ejector is smooth and strong, dry off any excess.

f. Perform inspection.

(1) Inspect the bolt for cracks or fractures, especially in the cam pin hole area; bolts that contain pits extending into the firing pin hole need replacement.

(2) Inspect the firing pin to ensure that it is not bent, cracked, blunted, and has no sharp end.

(3) Inspect the firing pin retaining pin to ensure that it is not bent or badly worn.

(4) Inspect the cam pin to ensure that it is not cracked, chipped, or missing.

(5) Inspect the extractor for chipped or broken edges in the area of the lip that engages the cartridge rim. Check to ensure the rubber inserts are inside the extractor spring.

NOTE: If parts are missing or defective, see your armorer.

g. Disassemble, clean, and reassemble the magazine.

(1) Release the base catch (figure 24).

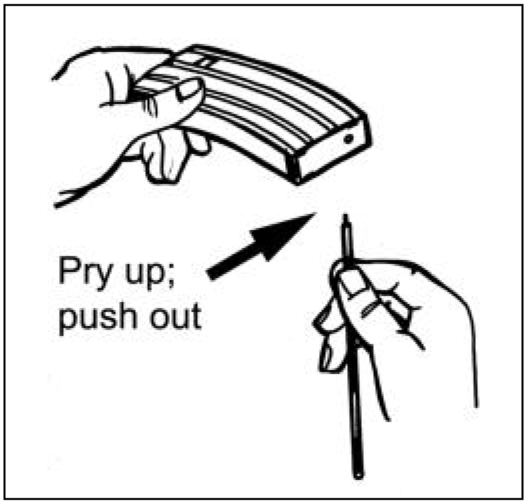


Figure 24

(2) Remove the magazine base (figure 25).

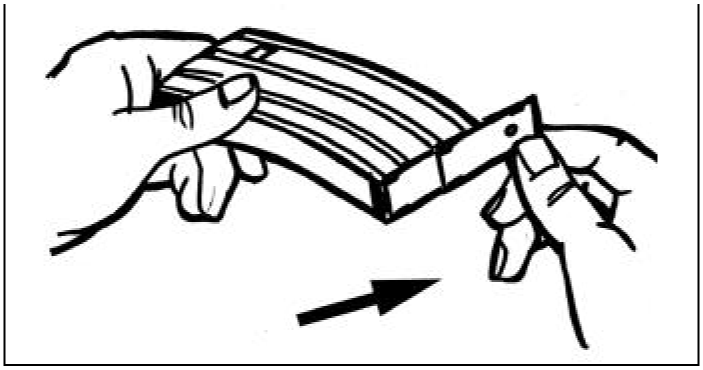


Figure 25

(3) Jiggle the spring and the follower for removal (figure 26).

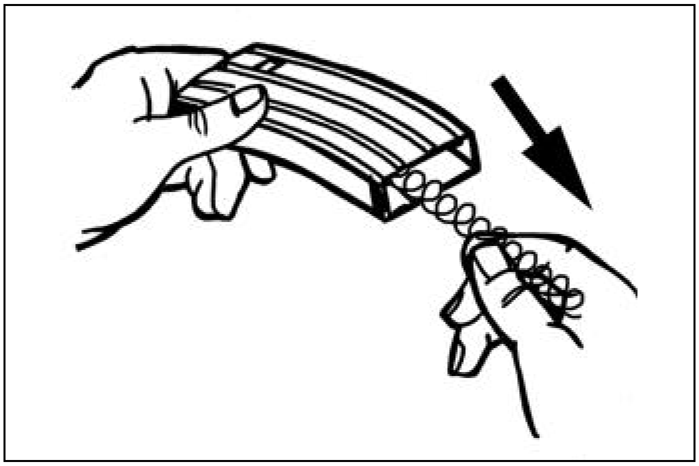


Figure 26

NOTE: Do not remove follower from spring.

(4) Wipe dirt from the tube, spring, and follower; then lightly lube the spring.

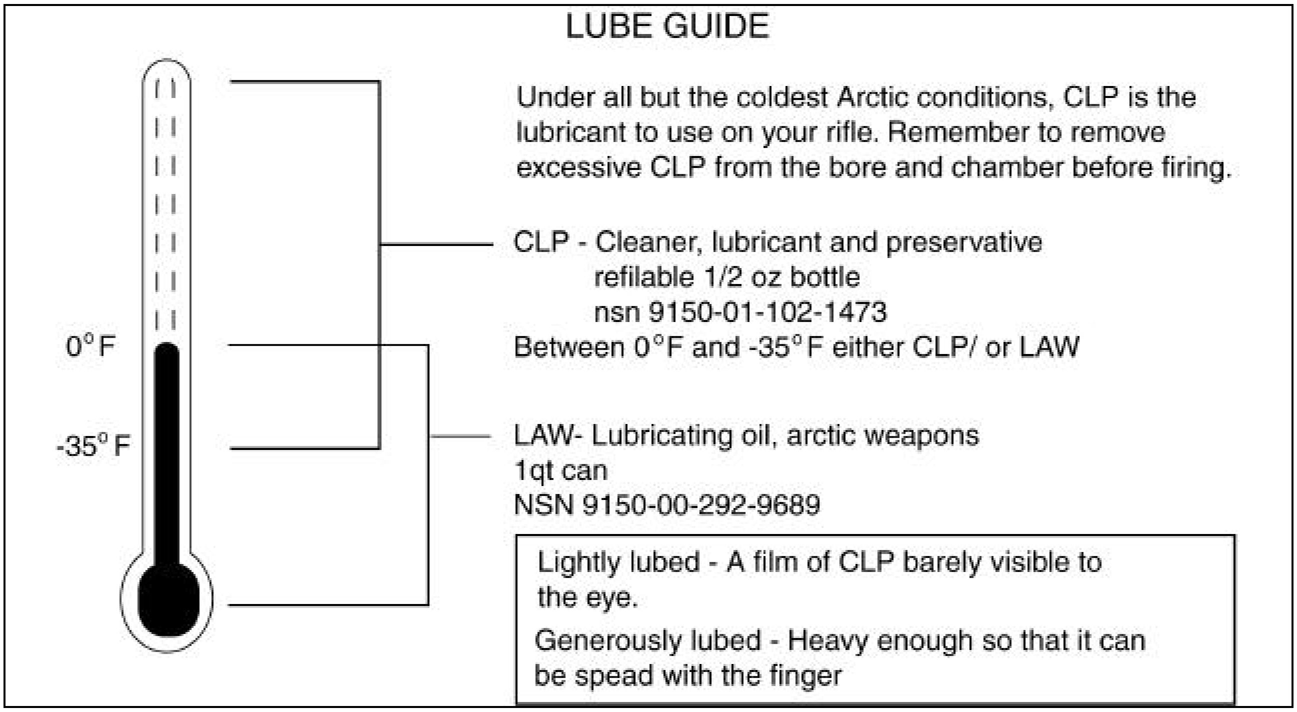
(5) Insert the follower and jiggle spring to install.

(6) Slide the base under all four tabs until the base catches.

NOTE: Make sure that the printing is on the outside of the base during reassembly.

5. *Lubricate the rifle.*

a. Use CLP as follows (figure 27):



LUBE GUIDE

Under all but the coldest Arctic conditions, CLP is the lubricant to use on your rifle. Remember to remove excessive CLP from the bore and chamber before firing.

CLP - Cleaner, lubricant and preservative
refilable 1/2 oz bottle
nsn 9150-01-102-1473
Between 0°F and -35°F either CLP/ or LAW

LAW- Lubricating oil, arctic weapons
1qt can
NSN 9150-00-292-9689

Lightly lubed - A film of CLP barely visible to the eye.

Generously lubed - Heavy enough so that it can be spead with the finger

Figure 27

(1) Always shake the bottle well before use.

(2) Place a few drops on a patch or rag.

(3) Clean your rifle with rags and patches until they come out clean.

(4) Take a clean patch or rag and apply a fresh, light coat.

NOTE: Do not use hot water or other solvents because it will wash away the Teflon lubricant that has been building up as a result of your use of CLP.

b. Lightly lube the inside of the upper receiver, bore and chamber, outer surfaces of the barrel and front sight, and the surfaces under the handguards.

c. Depress the front sight detent and apply two or three drops of CLP to the front sight detent. Depress several times to work lube into the spring (figure 28).

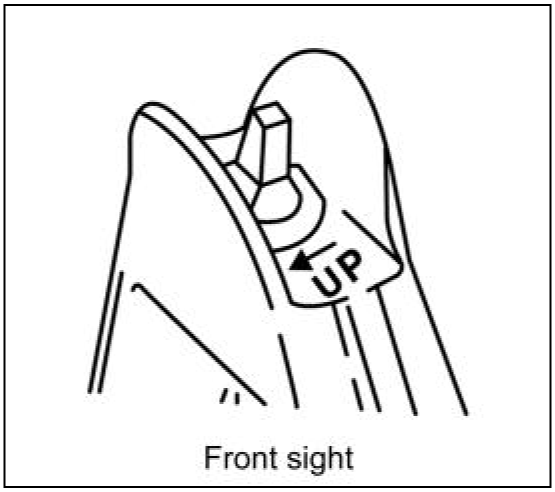


Figure 28

d. Lubricate the bolt carrier group.

(1) Generously lube the outside of the bolt and the bolt cam pin (figure 29). Be sure to lube the cam pin area, bolt rings, and outside of the bolt body. Put a light coat on the extractor and pin.

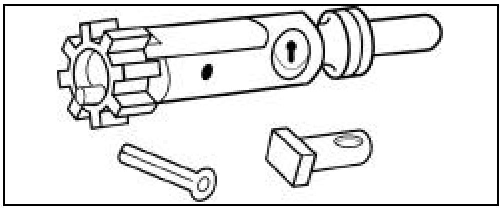


Figure 29

(2) Lubricate the carrier key (figure 30).

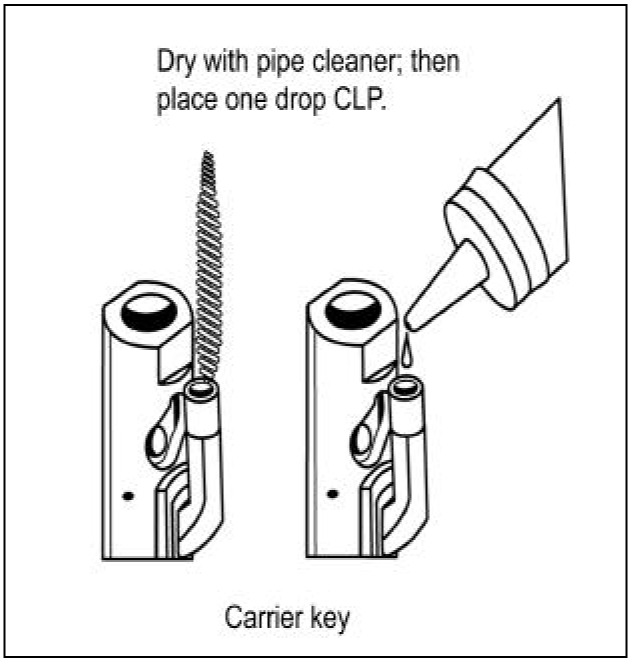


Figure 30

(3) Lightly lube the charging handle and the inner and outer surfaces of the bolt carrier. Generously lube the slide and cam pin area of the bolt carrier (figure 31).

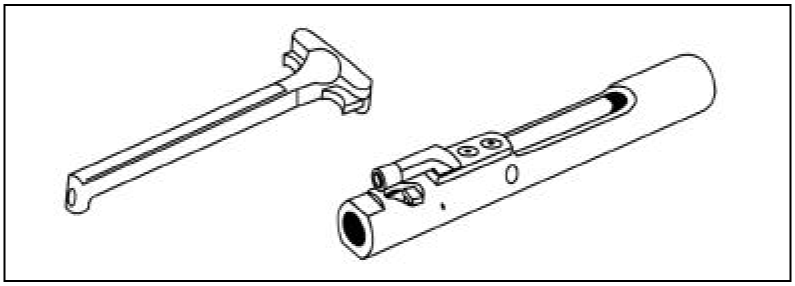


Figure 31

CAUTION: Use only a light coat of CLP on the firing pin and firing pin recess in the bolt.

e. Lubricate the lower receiver group.

(1) Lightly lube the inside of the lower receiver extension, buffer, and action spring (figure 32).

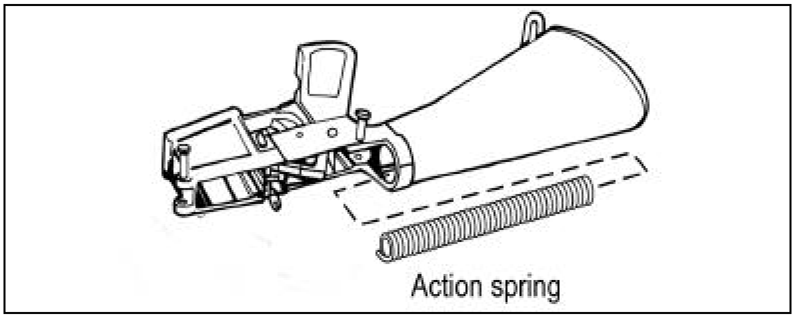


Figure 32

(2) Generously lube takedown and pivot pins, detents, and moving parts inside the lower receiver (figure 33).

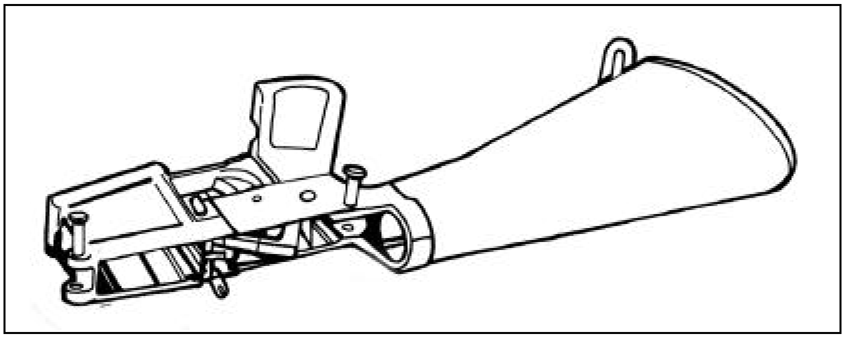


Figure 33

f. Lubricate the adjustable rear sight (figure 34).

NOTE: Make a note of how far you move the sights so that they can be returned to their original position at the completion of this task.

(1) Use one or two drops of CLP. Rotate these parts to ensure lubricant is spread evenly above and below them:

(a) Elevation knob

(b) Elevation screw shaft

(c) Windage knob (maximum five clicks left or right)

(d) Detent holes

(2) Lube elevation screw shaft also from inside the upper receiver as follows:

(a) Turn upper receiver upside down.

(b) Remove charging handle.

(c) Put two or three drops on bottom of elevation screw shaft and in elevation detent spring hole.

(d) Rotate the elevation dial back and forth a few times while keeping the upper receiver upside down.

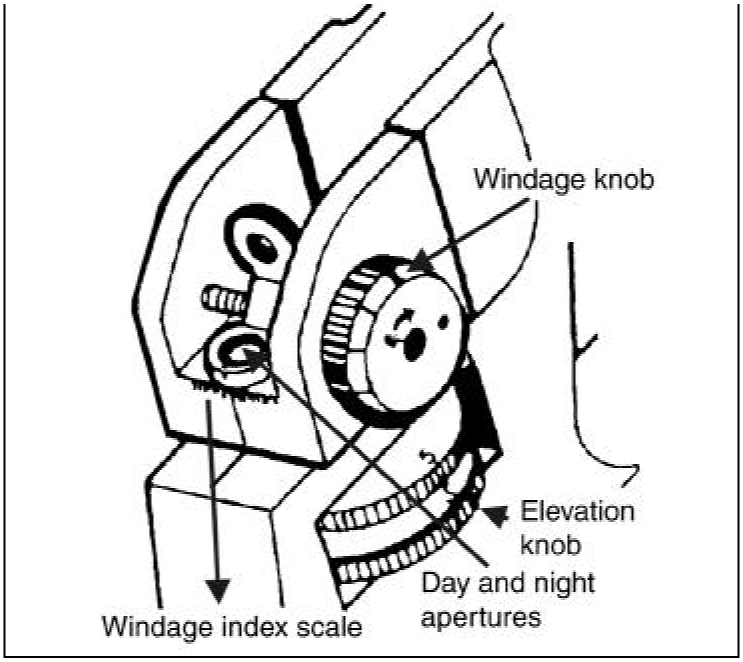


Figure 34

6. *Reassemble the rifle.*

a. Insert the action spring and buffer (figure 35).

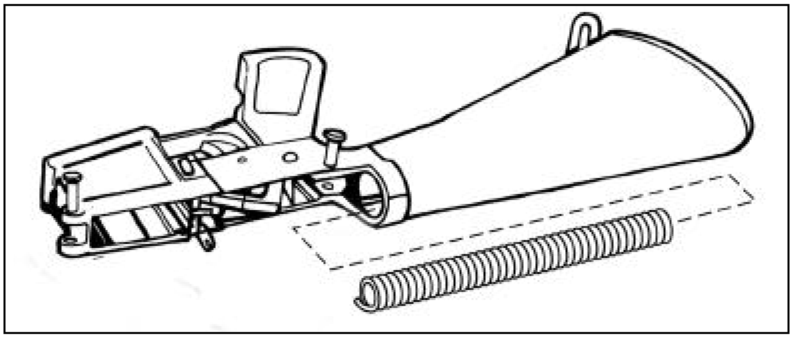


Figure 35

b. Insert the extractor and spring (figure 36).

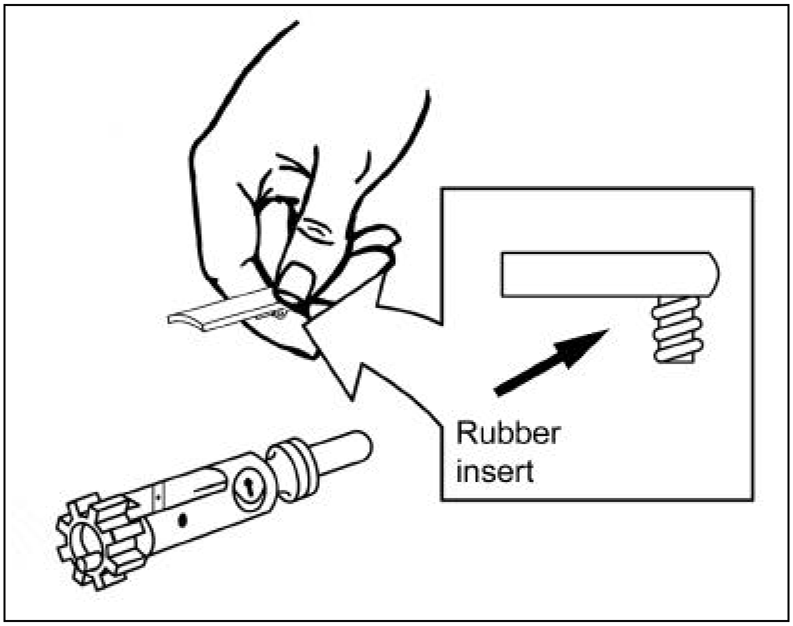


Figure 36

c. Push in the extractor pin while maintaining downward pressure on the extractor (figure 37).

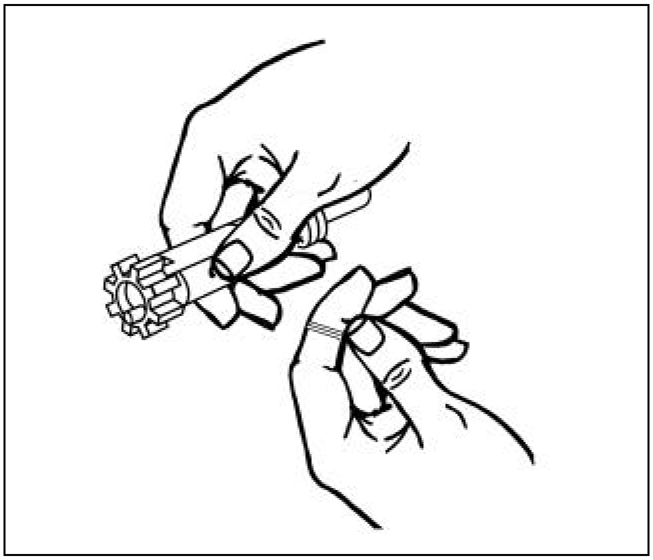


Figure 37

d. Slide the bolt into the bolt carrier (Figure 38).

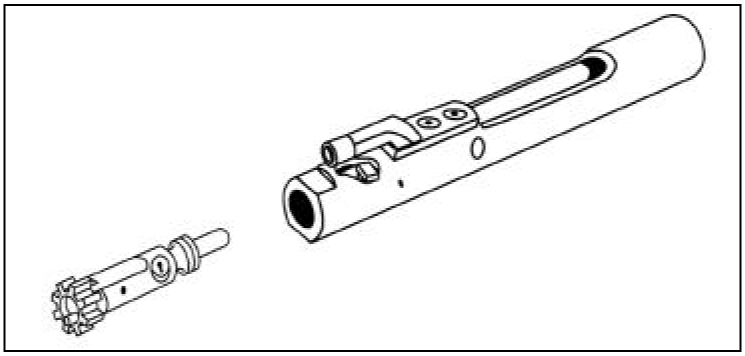


Figure 38

e. Replace the bolt cam (figure 39).

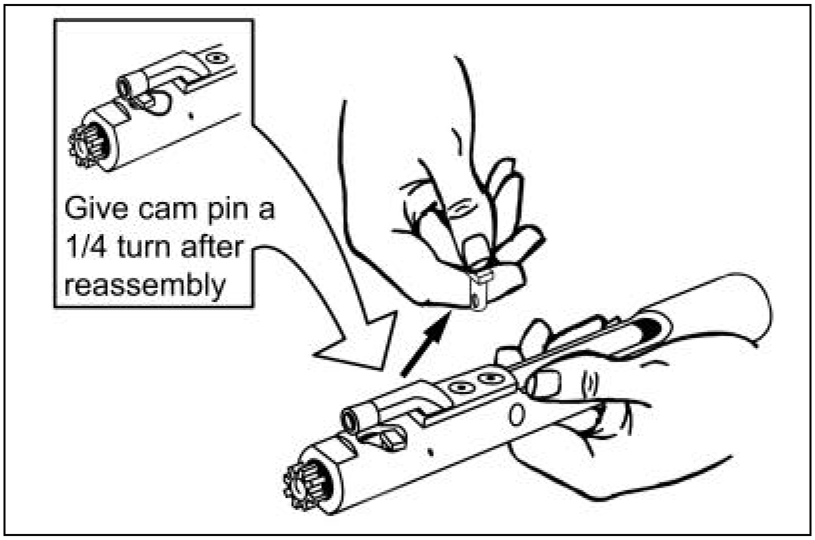


Figure 39

WARNING: Make sure that the cam pin is installed in the bolt group. Firing without the cam pin installed will explode the weapon.

f. Drop in and seat the firing pin (figure 40).

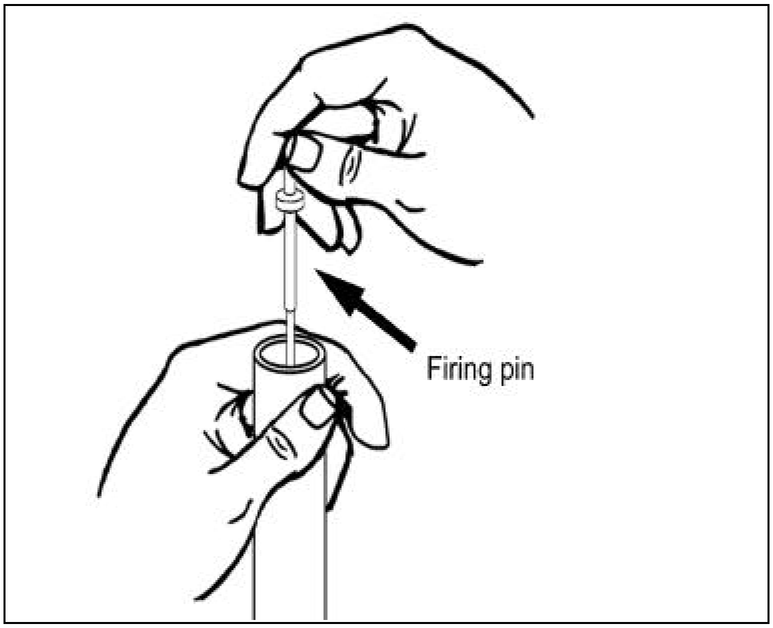


Figure 40

g. Pull out on the bolt (figure 41).

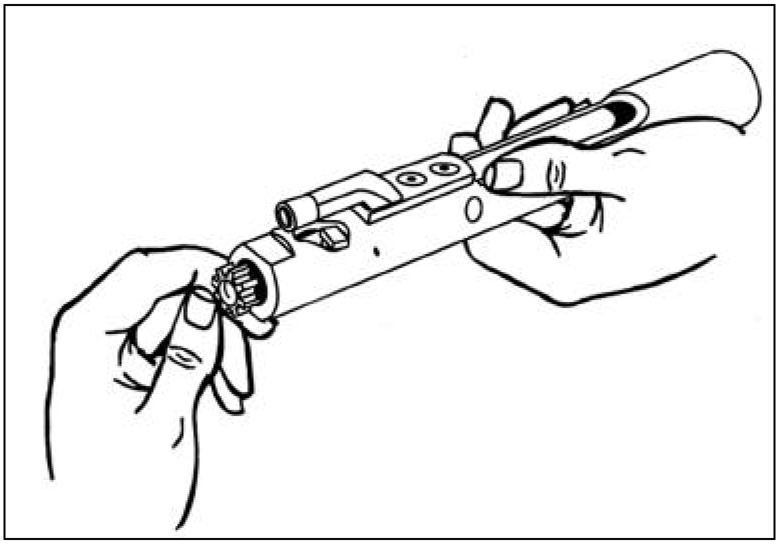


Figure 41

h. Replace the firing pin retaining pin (figure 42).

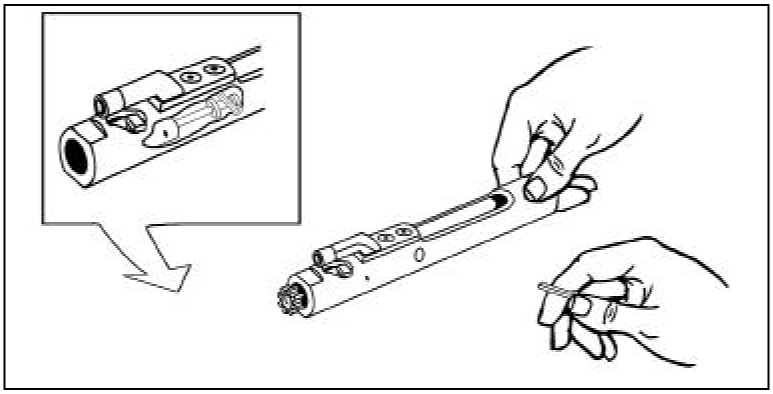


Figure 42

i. Engage and then push the charging handle part way (figure 43).

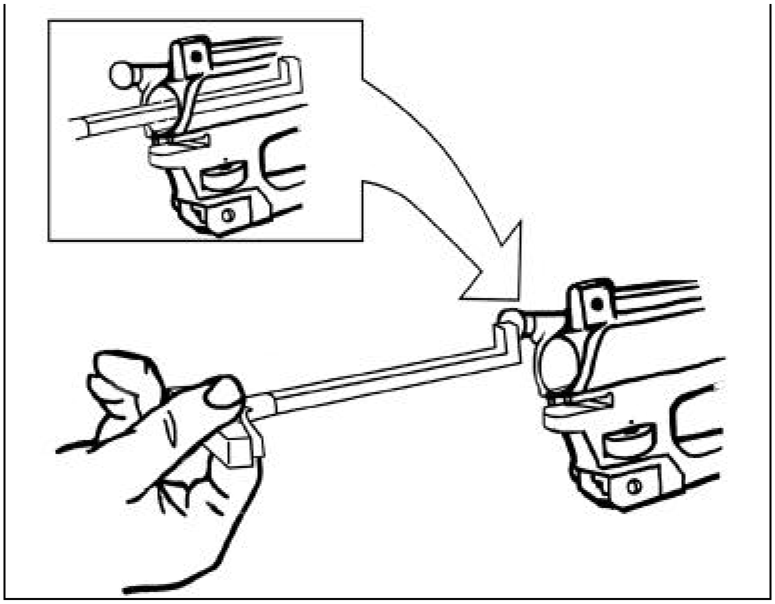


Figure 43

j. Slide in the bolt group (figure 44).

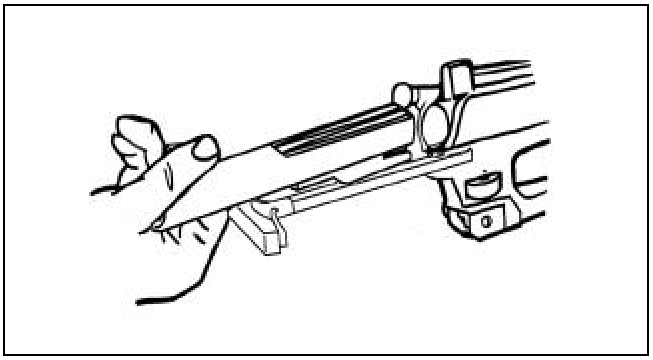


Figure 44

k. Push the charging handle and the bolt carrier group together (figure 45).

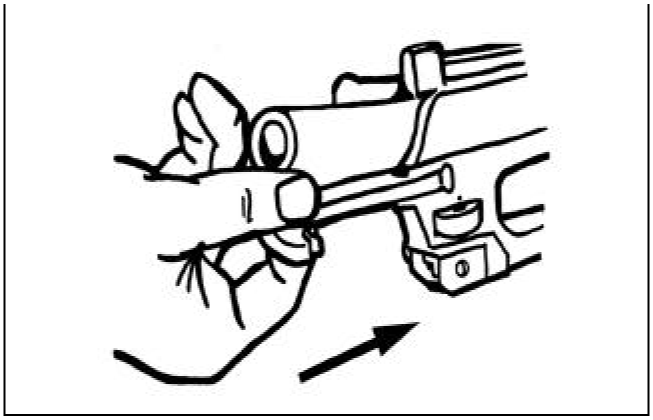


Figure 45

l. Join the upper and the lower receivers (figure 46).

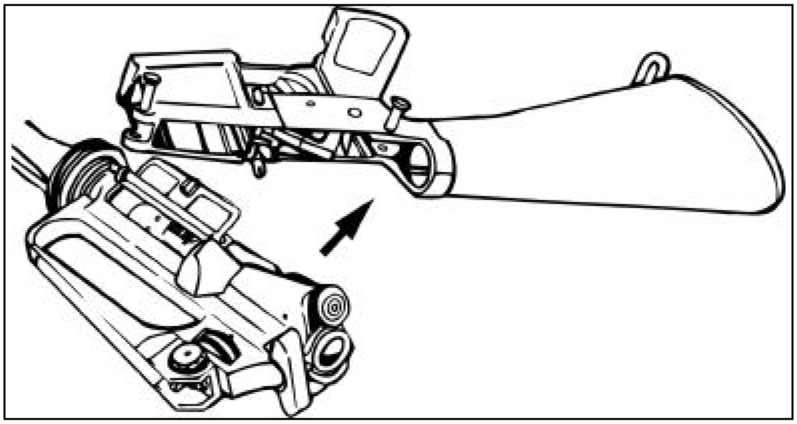


Figure 46

m. Engage the receiver pivot pin (figure 47).

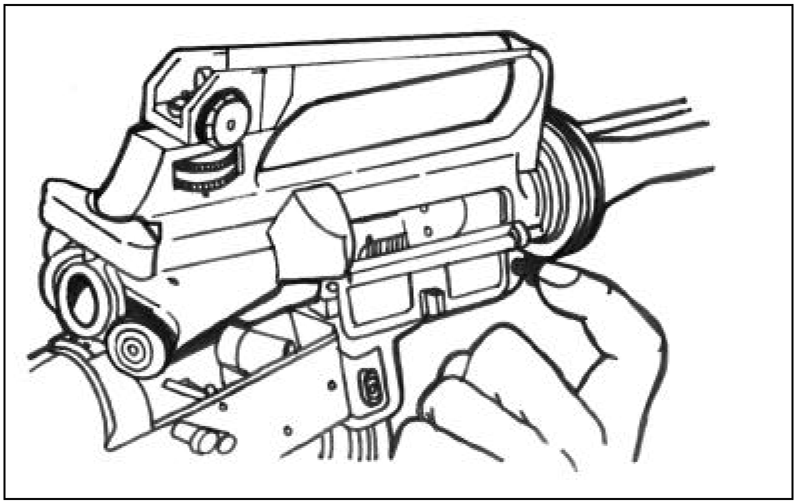


Figure 47

CAUTION: Selector lever must be on SAFE or SEMI before closing the upper receiver.

n. Close the upper and the lower receiver groups. Push in on the takedown pin.

o. Place the rifle on the buttstock and press down on the slip ring with your hand (figure 48).

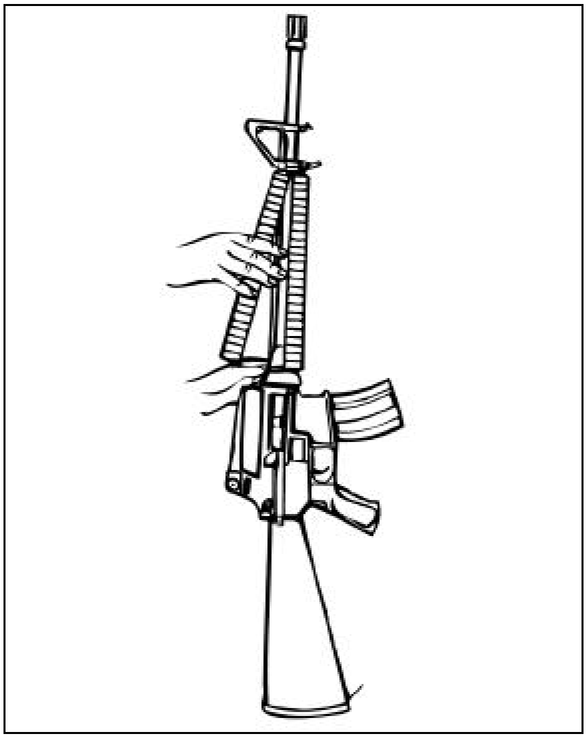


Figure 48

p. Install one handguard on top and the other on the bottom.

NOTE: The round hand guards are identical (top or bottom).

q. Snap on sling.

7. Perform the function check.

a. A function check is performed to ensure the rifle operates properly. To perform a function check:

(1) Ensure the weapon is in condition 4.

(2) Pull the charging handle to the rear and release. Ensure the selector lever is on safe and pull the trigger. The hammer should not fall.

(3) Place the selector lever on semi. Pull the trigger and hold it to the rear. The hammer should fall.

(4) Pull the charging handle to the rear and release. Release the trigger and pull again. The hammer should fall.

(5) Pull the charging handle to the rear and release. Place the selector lever on burst. Pull the trigger and hold it to the rear. The hammer should fall. Pull the charging handle to the rear three times and release. Release the trigger and pull again. The hammer should fall.

b. Pull the charging handle to the rear and release. Place the selector lever on safe.

REFERENCE(S):

MCRP 3-01A, *Rifle Marksmanship*
TM 05538C-10/1A, *Operator's Manual, Rifle, 5.56mm, M16A2 W/E*

TASK: **MCCS.11.03 (CORE) ENGAGE TARGETS WITH THE M16A2 SERVICE RIFLE AT THE SUSTAINED RATE**

CONDITION: **GIVEN AN M16A2 SERVICE RIFLE, 782-GEAR, AMMUNITION, AND TARGETS.**

STANDARD: **TO ACHIEVE A FIVE SHOT GROUP WITH THE SIZE NOT EXCEEDING SEVEN MINUTES OF ANGLE (MOA) OR 2.5 INCHES AS PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given an M16A2 service rifle, 782-gear, ammunition, and targets.

Standard: To achieve a five shot group with the size not exceeding seven minutes of angle (MOA) (2.5 inches) as per the reference.

PERFORMANCE STEPS:

1. *Handle the weapon safely.*

a. Apply the following safety rules at all times to ensure that only the intended target is engaged.

SAFETY RULES	
Rule 1	Treat every weapon as if it were loaded.
Rule 2	Never point a weapon at anything you do not intend to shoot.
Rule 3	Keep your finger straight and off the trigger until you are ready to fire.
Rule 4	Keep the weapon on safe until you intend to fire.

b. A weapon's readiness/safety is described by one of four conditions. The steps in the loading and unloading process take the rifle through four specific conditions of readiness for live fire.

CONDITION CODES	
Condition 1	Safety on, magazine inserted, round in chamber, bolt forward, ejection port cover closed.
Condition 2	Not applicable to the M16A2 rifle.
Condition 3	Safety on, magazine inserted, chamber empty, bolt forward, ejection port cover closed.
Condition 4	Safety on, magazine removed, chamber empty, bolt forward, ejection port cover closed.

c. Weapon commands dictate the specific conditions required to load and unload the rifle.

COMMANDS	
Load	Takes the weapon from condition 4 to condition 3.
Make Ready	Takes the weapon from condition 3 to condition 1.
Fire	Specifies when a Marine may engage targets.
Cease Fire	Specifies when a Marine must stop target engagement.
Unload	Takes the weapon from any condition to condition 4.
Unload Show Clear	When a second individual must check the weapon to verify that no ammunition is present before the rifle is placed in condition 4.

2. *Select a sling.*

- The rifle sling, when adjusted properly, provides maximum stability for the weapon, helps hold the front sight still, and reduces the effects of the rifle's recoil. Once a sling adjustment is found that provides maximum control of the weapon, the same sling adjustment should be maintained. Varying the sling tension extensively will affect the strike of the bullet, which will make maintaining a battlesight zero (BZO) difficult. Using the same sling adjustment will ensure the accuracy of rounds on target. There are two basic types of rifle sling adjustments: the hasty sling and loop sling.

(1) Hasty Sling

- The hasty sling is used in all firing positions. The hasty sling is advantageous in combat because it can be easily acquired quickly and provides added stability to the rifle. The hasty sling can be used for all firing positions. If properly adjusted, the hasty sling supports the weight of the weapon, provides stability for the rifle, and reduces the effects of the rifle's recoil. When using the hasty sling, controlled muscle tension is applied to offer resistance against the sling. Resistance against the hasty sling controls the point at which the rifle sights will settle.

    - Donning the Hasty Sling. To form the hasty, a Marine performs the following steps:

        a. Hold the rifle vertical with the barrel pointing upward.

        b. Unhook the J-hook from the lower sling swivel.

        c. Loosen the sling keeper.

        d. Adjust the sling until the J-hook hangs below the butt of the rifle. (The distance will vary based on the individual Marine, but the J-hook will usually hang approximately 3 to 10 inches below the butt as shown in figure 1.)

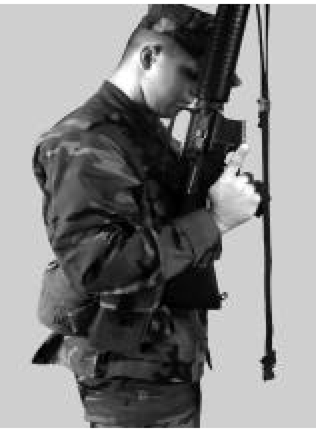


Figure 1

        e. Turn the sling a half turn outboard; this will allow the sling to lay flat against the back of the hand and arm.

        f. Attach the J-hook to the lower sling swivel so the open end of the J-hook faces outboard, away from the rifle. See figure 2.

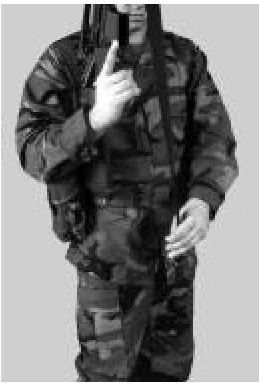


Figure 2

        g. While holding the rifle with the right hand, place the left arm through the sling near the lower sling swivel. The arm makes contact on the sling just below the triceps, above the elbow.

h. Slide the arm up through the sling below the half twist. The sling lies flat on the back of the arm.

i. With the left hand, grasp the hand guard so the sling lies flat against the back of the hand or wrist as shown in figure 3.

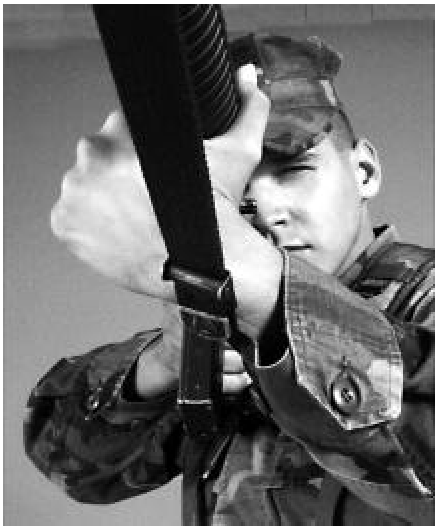


Figure 3

j. Place the left hand under the rifle so the hand guard rests in the "V" formed by the thumb and forefinger.

k. Move the left hand as required to level the rifle with the line of sight. Hand placement is correct approximately midway back on the hand guard.

l. Placement of the forward hand controls the tension on the sling between the wrist and the upper sling swivel. This hand placement, with a straight locked wrist, will cause the sling to pull straight under the hand guards and serve to stabilize the muzzle of the rifle as shown in figure 4.

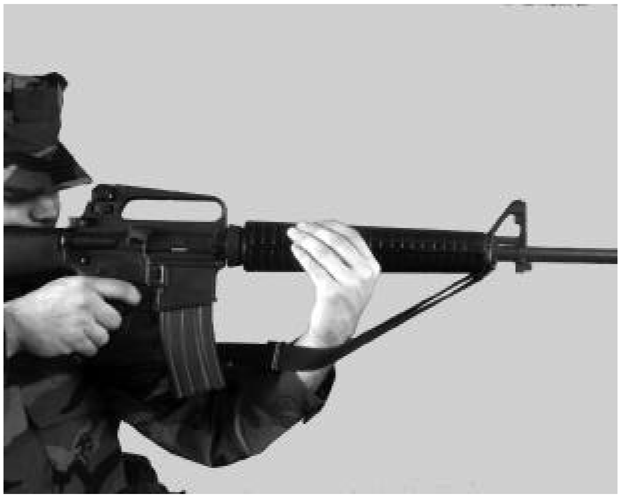


Figure 4

m. Move the feed end of the sling in or out of the sling keeper to adjust the hasty sling. It is important for the hasty sling to be adjusted so it supports the rifle.

n. Sling tension is further adjusted by moving the elbow outboard or by squaring the body more toward the target as shown in figure 5. This enables one sling setting to fit all positions.

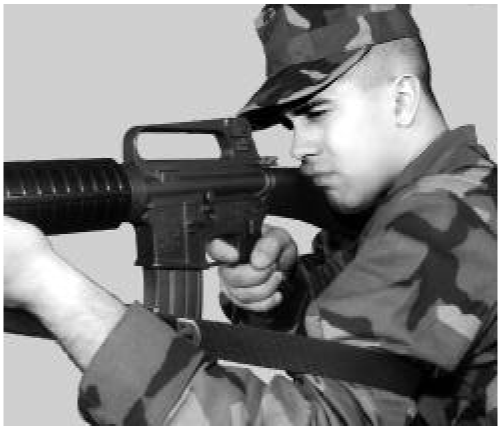


Figure 5

o. Locate the sling keeper near the feed end of the sling and secure.

(2) Loop Sling

- The loop sling provides the greatest amount of stability during firing. This stability allows the Marine to perfect marksmanship fundamentals. A loop sling takes longer to don or remove than a hasty sling. Therefore, it has limited combat application; it is best used where stability of hold is needed for a precision or long range shot. The loop sling is used in the prone, sitting, and kneeling positions. It provides maximum stability in all supported firing positions.

  - Donning the Loop Sling. To form the loop sling

a. Place the rifle butt on the right hip and cradle the rifle in the right arm.

b. Disconnect the J-hook from the lower sling swivel.

c. With the M-buckle near the hook, feed the sling through the top of the M-buckle to form a loop large enough to slip over the arm as shown in figure 6.

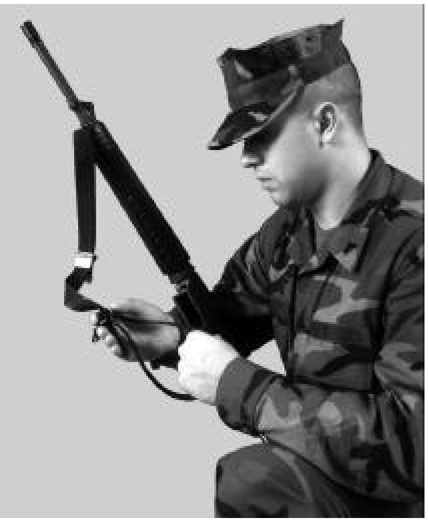


Figure 6

d. Give the loop a half turn outboard and insert the left arm through the loop, positioning the loop above the biceps. The loop is high on the left arm above the biceps muscle in such a position that it does not transmit pulse beat to the rifle.

e. Position the M-buckle on the outside of the left arm as shown in figure 7.

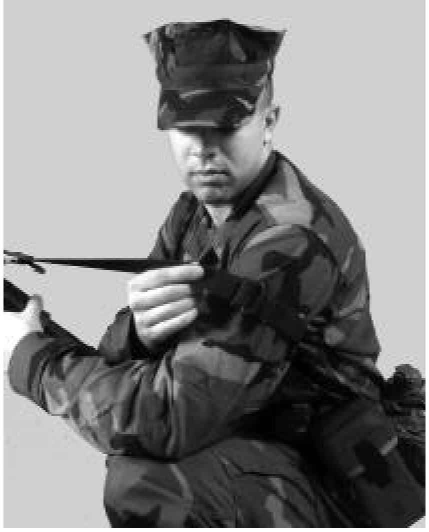


Figure 7

f. Tighten the loop on the left arm, ensuring the M-buckle moves toward the center of the arm as the loop tightens. The sling must pull from the center of the arm to be properly positioned. In this way, as tension is applied to the sling in the firing position, the loop will tighten.

g. To adjust the sling for the proper length, loosen the sling keeper and pull up or down (toward or away) from the loop. This adjustment varies with every individual and every firing position.

h. The loop should not be tightened excessively on the arm. If blood flow is restricted, excessive pulse beat is transmitted through the rifle sling to the rifle and causes a noticeable, rhythmic movement of the rifle sights. When this occurs, a stable hold at the desired aiming point is impossible to achieve.

i. Tension on the rifle sling is correct when it causes the rifle butt to be forced rearward into the pocket of the shoulder. This serves to keep the buttplate in the shoulder pocket during recoil. To increase the amount of tension on the rifle sling, the sling must be shortened. To lessen the tension, the rifle sling must be lengthened.

j. Move the sling keeper toward the left arm and secure it. The sling keeper should be positioned near the feed end of the sling.

k. Place the left hand over the sling from the left side and under the rifle. The rifle hand guard should rest in the "V" formed between the thumb and forefinger.

l. Move the left hand as required to achieve desired sight picture. Adjust the length of the sling for proper sling tension and support as shown in figure 8.

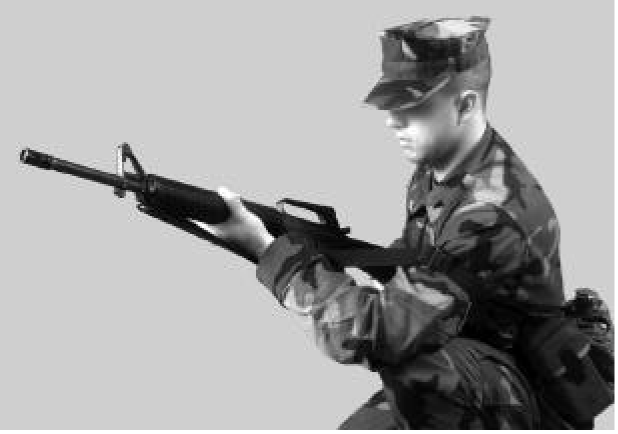


Figure 8

3. *Assume the firing position.*

- Selecting a Firing Position. The selection of a firing position (prone, sitting, kneeling, standing) is based on terrain, available cover, dispersion of targets, and other limiting factors. A Marine must select a position that offers stability, mobility, and observation.

    (1) Stability. A firing position must provide a stable platform for accurate and consistent shooting. If the position is solid, the rifle sights should recover after recoil to the same position on the target. This allows for rapid reengagement of the enemy. The prone position provides the most stability for firing, while the standing position provides the least stability.

    (2) Mobility. A firing position must provide a Marine with the mobility required to move to new cover or to another area. The standing position permits maximum mobility. It allows the most lateral movement for engagement of widely dispersed targets. The prone position allows the least mobility and limited lateral movement.

    (3) Observation of the Enemy. A firing position must limit a Marine's exposure to the enemy, yet allow observation of the enemy. Manmade structures and terrain features (e.g., vegetation, earth contours) often dictate the shooting position. The standing position normally provides the best field of view, but it usually allows the most exposure to the enemy. The prone position normally allows the least exposure, but it usually provides a limited field of view.

4. *Place the rifle in condition 3.*

a. Ensure the weapon is in condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine to make sure it is seated.

f. Fasten the magazine pouch.

g. Close the ejection port cover.

5. *Place the rifle in condition (1).*

a. Ensure the weapon is in condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine to make sure it is seated.

f. Pull the charging handle to the rear and release. There are two methods of doing this.

    (1) Grip the pistol grip firmly with the right hand and pull the charging handle with the left hand to its rearmost position and release.

    (2) Grip the hand guards firmly with the left hand and pull the charging handle with the right hand to its rearmost position and release.

g. To ensure ammunition has been chambered, conduct a chamber check if the tactical situation permits.

h. Check the sights to ensure proper BZO setting, correct rear sight aperture, etc.

i. Close the ejection port cover, if time and situation permits.

6. *Fire well aimed shots.*

- Apply the fundamentals of marksmanship and fire well aimed shots at the sustained rate of fire (12 to 15 rounds per minute). The fundamentals of marksmanship are aim, breath control, and trigger control. These fundamentals provide the foundation for all marksmanship principles and skills. For rifle fire to be effective, it must be accurate. A rifleman who merely sprays shots in the vicinity of the enemy produces little effect. The fundamentals of marksmanship, when applied correctly, form the basis for delivering accurate fire on enemy targets. These skills must be developed so that they are applied instinctively. During combat, the fundamentals of marksmanship must be applied in a limited time frame, which corresponds to the size and the distance of the target. At longer ranges, the target is smaller and a more precise shot is required to accurately engage the target. The fundamentals are more critical to accurate engagement as the range to the target increases. To be accurate at longer ranges, the Marine must take the time to slow down and accurately apply the fundamentals. At shorter ranges, the enemy must be engaged quickly before it engages the Marine. As the size of the target increases, and the distance to the target decreases, the fundamentals, while still necessary, become less critical to accuracy. In combat, a Marine must apply proper aiming, breathing, and trigger control techniques without hesitation.

(1) Sight Alignment. Sight alignment is the relationship between the front sight post and rear sight aperture and the aiming eye. This relationship is the most critical to aiming and must remain consistent from shot to shot. To achieve correct sight alignment, see figure 9. Center the tip of the front sight post vertically and horizontally in the rear sight aperture. Imagine a horizontal line drawn through the center of the rear sight aperture. The top of the front sight post will appear to touch this line. Imagine a vertical line drawn through the center of the rear sight aperture. The line will appear to bisect the front sight post.

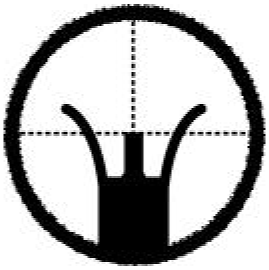


Figure 9

(2) Sight Picture. Sight picture is the placement of the tip of the front sight post in relation to the target while maintaining sight alignment. Correct sight alignment. Improper sight placement on the target will cause the bullet to impact the target incorrectly. To achieve correct sight picture, place the tip of the front sight post at the center of the target while maintaining sight alignment (see figure 10). Center of mass is the correct aiming point so that point of aim/point of impact is achieved.

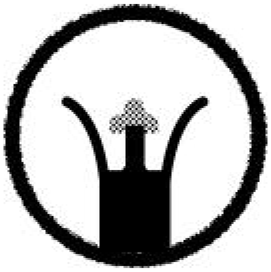


Figure 10

7. *Assess the shot group.*

a. Determine if the shot group is within seven (MOA) or 2.5 inches.

b. Triangulate the shot group to find the center. (See figure 11.)

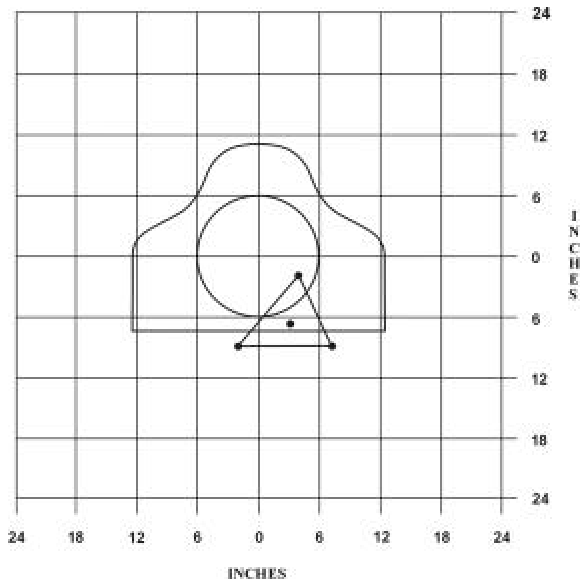


Figure 11

c. Determine the vertical distance in inches from the center of the shot group to the center of the target.

d. Make elevation adjustments on the front sight post to move the center of the shot group to the center of the target.

e. Determine the horizontal distance from the center of the shot group to the center of the target.

f. Make lateral adjustments on the windage knob to move the center of the shot group to the center of the target.

REFERENCE(S):

MCRP 3-01A, *Rifle Marksmanship*
SLR.15, 36 *Yard Grouping Ex*

TASK: **MCCS.11.04 (CORE) ZERO THE M16A2 SERVICE RIFLE**

CONDITION: **GIVEN AN M16A2 SERVICE RIFLE, 782-GEAR, AMMUNITION, AND 36-YARD BZO TARGET OR A MAN-SIZED TARGET ("E" Silhouette) AT 300 YARDS.**

STANDARD: **TO ACHIEVE POINT OF AIM AND POINT OF IMPACT AT THE CENTER OF THE TARGET PER THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given an M16A2 service rifle, 782-gear, ammunition, and 36-yard BZO target or a man-sized target ("E" Silhouette) at 300 yards.

Standard: To achieve point of aim and point of impact at the center of the target per the references.

PERFORMANCE STEPS:

1. *Handle the weapon safely*.

a. Apply the following safety rules at all times to ensure that only the intended target is engaged.

SAFETY RULES	
Rule 1	Treat every weapon as if it were loaded.
Rule 2	Never point a weapon at anything you do not intend to shoot.
Rule 3	Keep your finger straight and off the trigger until you are ready to fire.
Rule 4	Keep the weapon on safe until you intend to fire.

b. A weapon's readiness/safety is described by one of four conditions. The steps in the loading and unloading process take the rifle through four specific conditions of readiness for live fire.

CONDITION CODES	
Condition 1	Safety on, magazine inserted, round in chamber, bolt forward, ejection port cover closed.
Condition 2	Not applicable to the M16A2 rifle.
Condition 3	Safety on, magazine inserted, chamber empty, bolt forward, ejection port cover closed.
Condition 4	Safety on, magazine removed, chamber empty, bolt forward, ejection port cover closed.

c. Weapon commands dictate the specific conditions required to load and unload the rifle.

COMMANDS	
Load	Takes the weapon from condition 4 to condition 3.
Make Ready	Takes the weapon from condition 3 to condition 1.
Fire	Specifies when a Marine may engage targets.
Cease Fire	Specifies when a Marine must stop target engagement.
Unload	Takes the weapon from any condition to condition 4.
Unload Show Clear	Specifies when a second individual must check the weapon to verify that no ammunition is present before the rifle is placed in condition 4.

2. *Place sights on initial sight setting.*

a. Initial sight settings are those settings that serve as the starting point for initial zeroing from which all sight adjustments are made. If the Marine already has a battlesight zero (BZO) established on his rifle, he or she may begin the zeroing process by using the previously established BZO sight settings. BZO is the elevation and windage settings required to engage point targets from 0 to 300 yards/meters under ideal weather conditions (i.e., no wind). This means that the rifle sights are adjusted so the bullet's trajectory and the line of sight intersect at a range of 300 yards/meters. When zeroing in windy conditions, the adjustments for windage to offset the effects of wind must be removed to establish a BZO. To set the sights to initial sight settings, depress the detent on the front sight and rotate the front sight either up or down until the base of the sight is flush with the surrounding housing, as shown in figure 1.

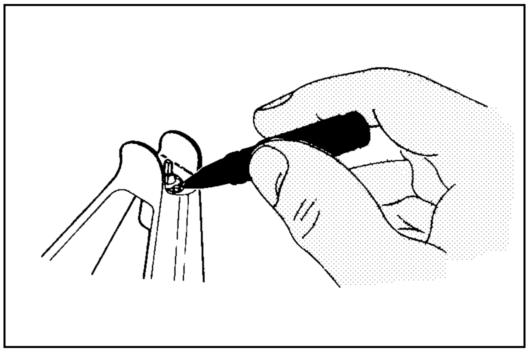


Figure 1

b. Rear Sight Elevation Knob. To set the elevation knob at the initial sight setting, perform the following.

(1) Rotate the rear sight elevation knob counterclockwise until the moveable rear sight housing is bottomed out on the upper receiver as shown in figure 2.

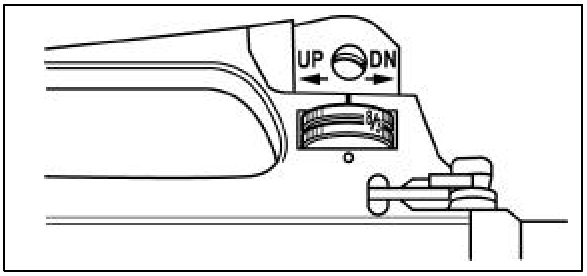


Figure 2

NOTES: Once bottomed out, the rear sight elevation knob should be three clicks counterclockwise from 8/3.

If the sight fails to move three clicks counterclockwise from 8/3, it must be adjusted by a qualified armorer.

(2) Rotate the rear sight elevation knob clockwise until the number 8/3 aligns with the index mark located on the left side of the upper receiver as shown in figure 3.

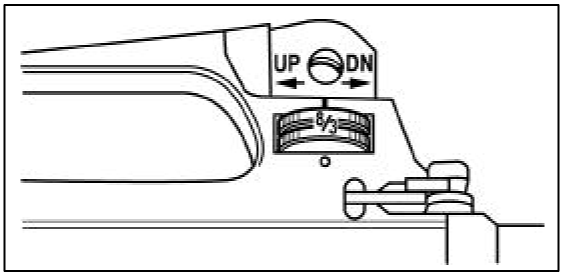


Figure 3

c. Windage Knob. To set the windage knob to initial sight setting, rotate the windage knob until the index line located on the top of the large rear sight aperture aligns with the centerline on the windage index scale located on the moveable base of the rear sight assembly as shown in figure 4.

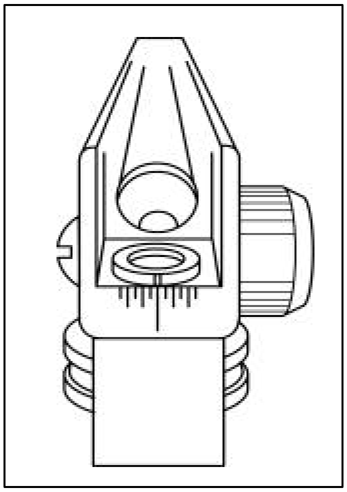


Figure 4

3. *Select a sling.*

- The rifle sling, when adjusted properly, provides maximum stability for the weapon, helps hold the front sight still, and reduces the effects of the rifle's recoil. Once a sling adjustment is found that provides maximum control of the weapon, the same sling adjustment should be maintained. Varying the sling tension extensively will affect the strike of the bullet, which will make maintaining a BZO difficult. Using the same sling adjustment will ensure the accuracy of rounds on target. There are two basic types of rifle sling adjustments: the hasty sling and loop sling.

(1) Hasty Sling

- The hasty sling is used in all firing positions. The hasty sling is advantageous in combat because it can be acquired easily and quickly and provides added stability to the rifle. The hasty sling can be used for all firing positions. If properly adjusted, the hasty sling supports the weight of the weapon, provides stability for the rifle, and reduces the effects of the rifle's recoil. When using the hasty sling, controlled muscle tension is applied to offer resistance against the sling. Resistance against the hasty sling controls the point at which the rifle sights will settle.

1. Donning the Hasty Sling. To form the hasty, a Marine performs the following steps.

a. Hold the rifle vertical with the barrel pointing upward.

b. Unhook the J-hook from the lower sling swivel.

c. Loosen the sling keeper.

d. Adjust the sling until the J-hook hangs below the butt of the rifle. (The distance will vary based on the individual Marine, but the J-hook will usually hang approximately 3 to 10 inches below the butt as shown in figure 5.)

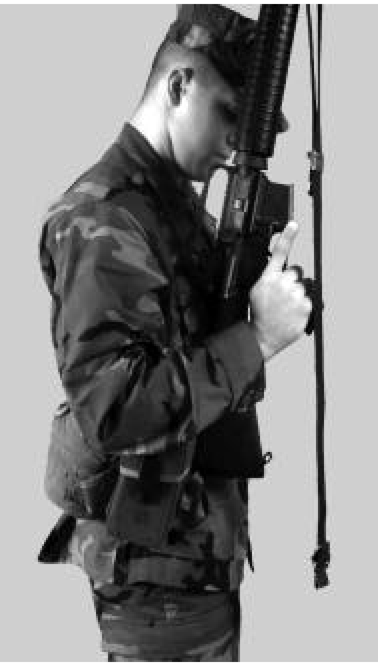


Figure 5

e. Turn the sling a half turn outboard; this will allow the sling to lay flat against the back of the hand and arm.

f. Attach the J-hook to the lower sling swivel so the open end of the J-hook faces outboard, away from the rifle. (See figure 6.)

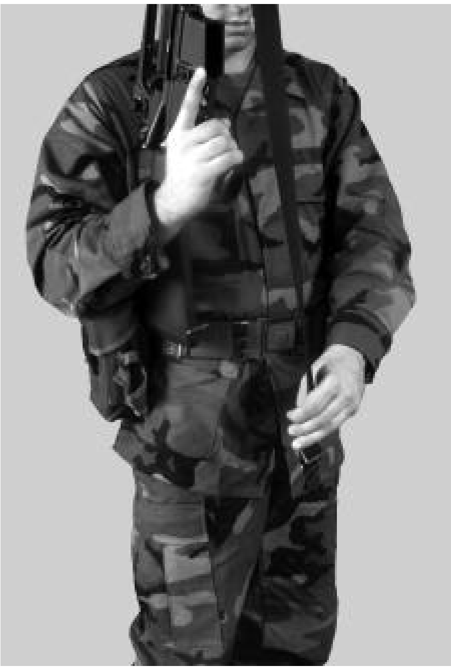


Figure 6

g. While holding the rifle with the right hand, place the left arm through the sling near the lower sling swivel. The arm makes contact on the sling just below the triceps, above the elbow.

h. Slide the arm up through the sling below the half twist. The sling lies flat on the back of the arm.

i. With the left hand, grasp the hand guard so the sling lies flat against the back of the hand or wrist as shown in figure 7.

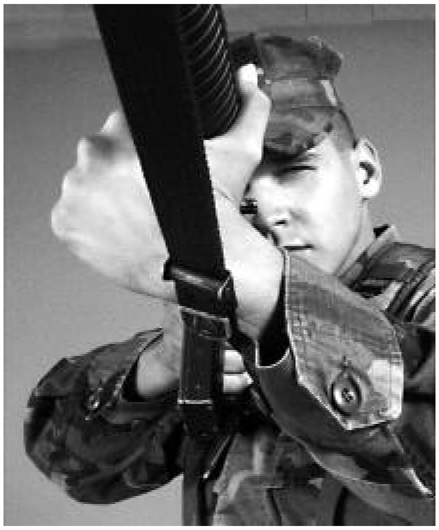


Figure 7

j. Place the left hand under the rifle so the hand guard rests in the "V" formed by the thumb and forefinger.

k. Move the left hand as required to level the rifle with the line of sight. Hand placement is correct approximately midway back on the hand guard.

l. Placement of the forward hand controls the tension on the sling between the wrist and the upper sling swivel This hand placement, with a straight locked wrist, will cause the sling to pull straight under the hand guards and serves to stabilize the muzzle of the rifle as shown in figure 8.

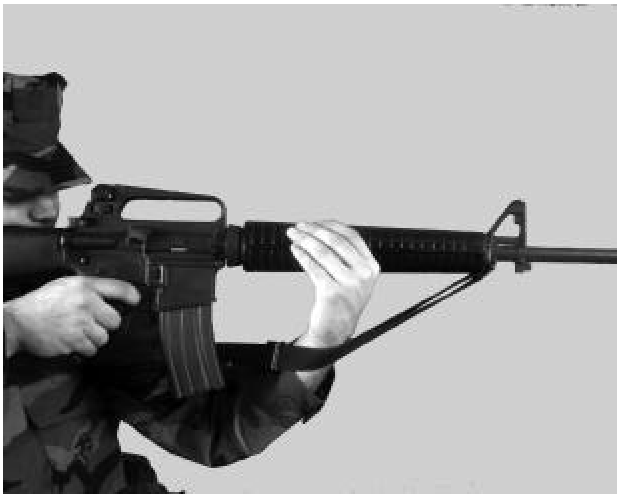


Figure 8

m. Move the feed end of the sling in or out of the sling keeper to adjust the hasty sling. It is important for the hasty sling to be adjusted so it supports the rifle.

n. Sling tension is further adjusted by moving the elbow outboard or by squaring the body more toward the target as shown in figure 9. This enables one sling setting to fit all positions.

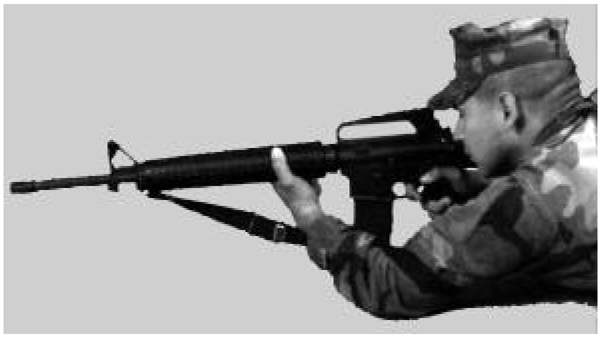


Figure 9

o. Locate the sling keeper near the feed end of the sling and secure.

(2) Loop Sling

- The loop sling provides the greatest amount of stability during firing. This stability allows the Marine to perfect marksmanship fundamentals. A loop sling takes longer to don or remove than a hasty sling. Therefore, it has limited combat application; it is best used where stability of hold is needed for a precision or long range shot. The loop sling is used in the prone, sitting, and kneeling positions. It provides maximum stability in all supported firing positions.

  - Donning the Loop Sling. To form the loop sling

a. Place the rifle butt on the right hip and cradle the rifle in the right arm.

b. Disconnect the J-hook from the lower sling swivel.

c. With the M-buckle near the hook, feed the sling through the top of the M-buckle to form a loop large enough to slip over the arm as shown in figure 10.

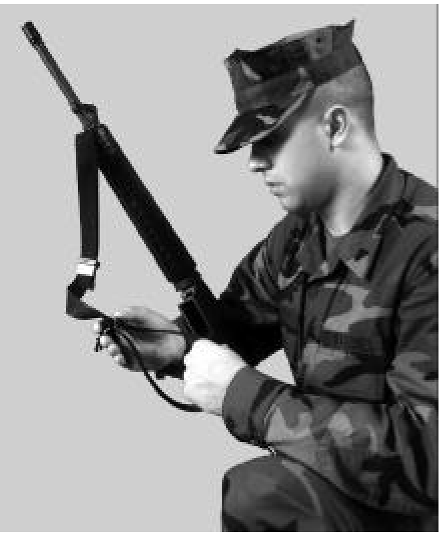


Figure 10

d. Give the loop a half turn outboard and insert the left arm through the loop, positioning the loop above the biceps. The loop is high on the left arm above the biceps muscle in such a position that it does not transmit pulse beat to the rifle.

e. Position the M-buckle on the outside of the left arm as shown in figure 11.

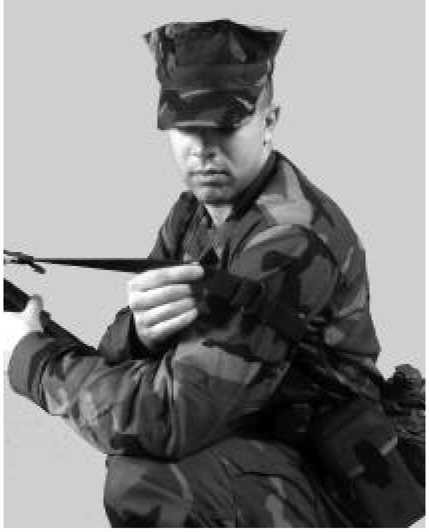


Figure 11

f. Tighten the loop on the left arm, ensuring the M-buckle moves toward the center of the arm as the loop tightens. The sling must pull from the center of the arm to be properly positioned. In this way, as tension is applied to the sling in the firing position, the loop will tighten.

g. To adjust the sling for the proper length, loosen the sling keeper and pull up or down (toward or away) from the loop. This adjustment varies with every individual and every firing position:

h. The loop should not be tightened excessively on the arm. If blood flow is restricted, excessive pulse beat is transmitted through the rifle sling to the rifle and causes a noticeable, rhythmic movement of the rifle sights. When this occurs, a stable hold at the desired aiming point is impossible to achieve.

i. Tension on the rifle sling is correct when it causes the rifle butt to be forced rearward into the pocket of the shoulder. This serves to keep the buttplate in the shoulder pocket during recoil. To increase the amount of tension on the rifle sling, the sling must be shortened. To lessen the tension, the rifle sling must be lengthened.

j. Move the sling keeper toward the left arm and secure it. The sling keeper should be positioned near the feed end of the sling.

k. Place the left hand over the sling from the left side and under the rifle. The rifle hand guard should rest in the "V" formed between the thumb and forefinger.

l. Move the left hand as required to achieve desired sight picture. Adjust the length of the sling for proper sling tension and support as shown in figure 12.

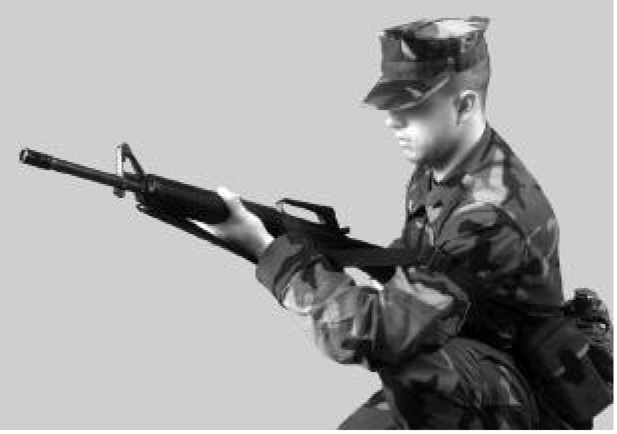


Figure12

4. *Assume the prone firing position*.

- There are two types of prone positions, straight-leg and cocked-leg. Both positions are steady, easy to assume, and present a low silhouette. These positions provide maximum body contact with the ground and maximum stability for firing. After assuming the prone position, place as much body weight as possible behind the weapon. The angle of the body should not exceed 10 to 20 degrees to the right or left of the line of fire. If this position is used correctly, the weapon's recoil is absorbed by the whole body and not just the shoulder.

(1) Figure 13 shows the different straight-leg prone positions with the hasty sling. Figure 14 shows the different straight-leg prone positions with the loop sling.

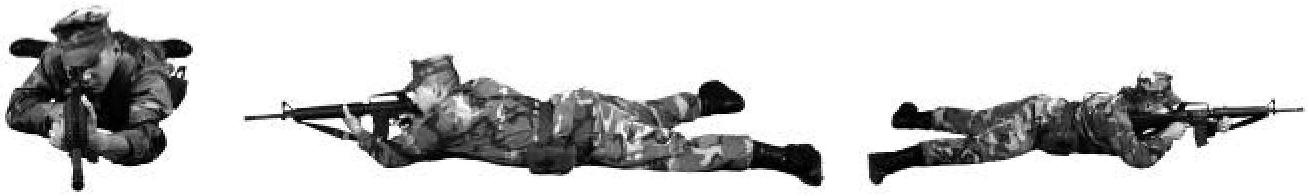


Figure 13

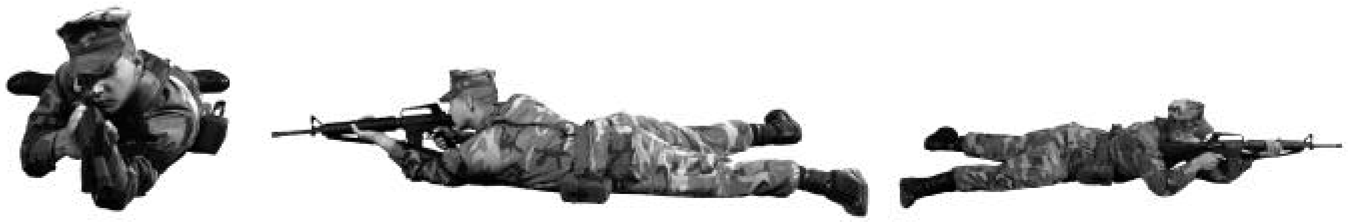


Figure 14

(a) Stand erect.

(b) Face the target at an angle of not more than 20 degrees to the right of the line of fire.

(c) Place your left hand under the hand guard.

(d) Spread feet approximately shoulder width apart.

(e) Lower into position by dropping to both knees.

(f) Lower upper body to ground using your right arm to break fall.

(g) Rotate your elbow into a position directly underneath the rifle.

NOTE: The key to the prone position is the full extension and bending of the arm at the elbow directly underneath the rifle.

(h) Grasp rifle butt with your right hand and place into the right shoulder pocket.

(i) Grasp pistol grip with your right hand.

(j) Rotate your body to the right and lower your right elbow to ground

(k) Point feet outboard.

(l) Move your left hand to a location under the hand guard, which provides maximum bone support and stability for the weapon.

(2) Figure 15 shows the different cocked-leg prone positions with the hasty sling. Figure 16 shows the different cocked-leg prone positions with the loop sling.

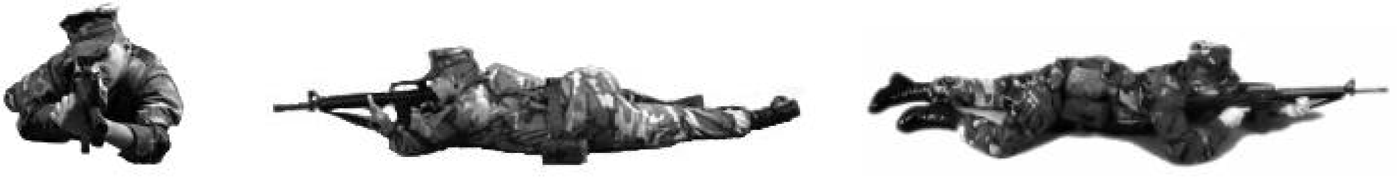


Figure 15

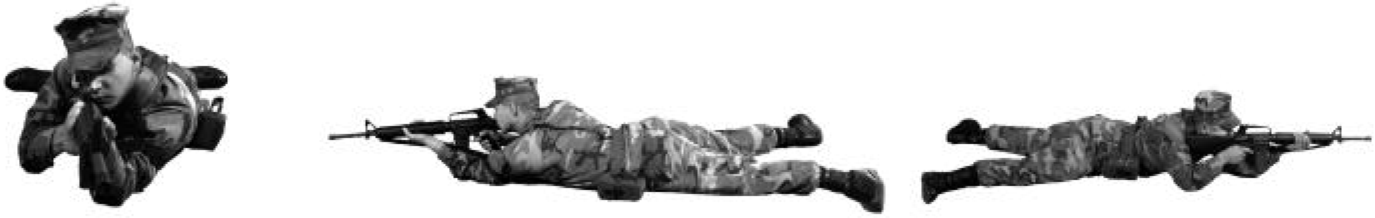


Figure 16

(a) Stand erect.

(b) Face the target at a 10 to 20 degree angle to the right of the line of fire.

(c) Place your left hand under the hand guard.

(d) Spread feet approximately shoulder width apart.

(e) Lower into position by dropping to both knees.

(f) Lower upper body to ground using your right arm to break the fall.

(g) Rotate your elbow into a position directly underneath the rifle.

NOTE: The key to the prone position is the full extension and bending of the arm at the elbow directly underneath the rifle.

(h) Draw your right knee up not to exceed 45 degrees.

(i) Grasp rifle butt with your right hand and place into your shoulder pocket.

(j) Grasp pistol grip with your right hand.

(k) Rotate your body to the right and lower your elbow to the ground.

(l) Place cheek firmly against stock to obtain a firm stock weld.

(m) Point your right foot outboard and the left foot inboard.

(n) Move your hand to a location under the handguard, which provides maximum bone support and stability for the weapon.

5. *Place rifle in condition 3.*

a. Ensure the weapon is in condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine to make sure it is seated.

f. Fasten the magazine pouch.

g. Close the ejection port cover.

6. Place rifle in condition 1.

a. Ensure the weapon is in condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine to make sure it is seated.

f. Pull the charging handle to the rear and release. There are two methods of doing this.

  (1) Grip the pistol grip firmly with the right hand and pull the charging handle with the left hand to its rearmost position and release.

  (2) Grip the hand guards firmly with the left hand and pull the charging handle with the right hand to its rearmost position and release.

g. To ensure ammunition has been chambered, conduct a chamber check if the tactical situation permits.

h. Check the sights to ensure proper BZO setting, correct rear sight aperture, etc.

i. Close the ejection port cover, if time and situation permits.

7. Fire three shots.

- Apply the fundamentals of marksmanship and fire a three-3-shot group at the sustained rate of fire (12 to 15 rounds per minute). The fundamentals of marksmanship are aim, breath control, and trigger control. These fundamentals provide the foundation for all marksmanship principles and skills. For rifle fire to be effective, it must be accurate. A rifleman who merely sprays shots in the vicinity of the enemy produces little effect. The fundamentals of marksmanship, when applied correctly, form the basis for delivering accurate fire on enemy targets. These skills must be developed so they are applied instinctively. During combat, the fundamentals of marksmanship must be applied in a limited time frame which corresponds to the size and distance of the target. At longer ranges, the target is smaller and a more precise shot is required to accurately engage the target. The fundamentals are more critical to accurate engagement as the range to the target increases. To be accurate at longer ranges, the Marine must take the time to slow down and accurately apply the fundamentals. At shorter ranges, the enemy must be engaged quickly before it engages the Marine. As the size of the target increases, and the distance to the target decreases, the fundamentals, while still necessary, become less critical to accuracy. In combat, a Marine must apply proper aiming, breathing, and trigger control techniques without hesitation.

(1) Sight Alignment. Sight alignment is the relationship between the front sight post and rear sight aperture and the aiming eye. This relationship is the most critical to aiming and must remain consistent from shot to shot. To achieve correct sight alignment, as shown in figure 17, center the tip of the front sight post vertically and horizontally in the rear sight aperture. Imagine a horizontal line drawn through the center of the rear sight aperture. The top of the front sight post will appear to touch this line. Imagine a vertical line drawn through the center of the rear sight aperture. The line will appear to bisect the front sight post.

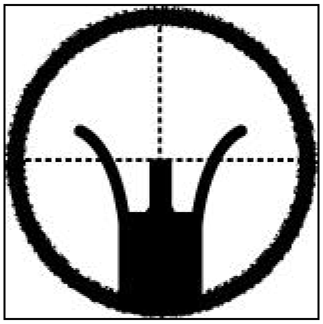


Figure 17

(2) Sight Picture. Sight picture is the placement of the tip of the front sight post in relation to the target while maintaining sight alignment. Correct sight alignment but improper sight placement on the target will cause the bullet to impact the target incorrectly. To achieve correct sight picture, as shown in figure 18, place the tip of the front sight post at the center of the target while maintaining sight alignment. Center of mass is the correct aiming point so that point of aim/point of impact is achieved.

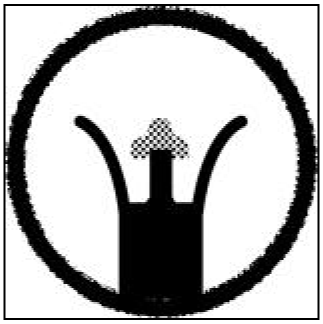


Figure 18

8. *Record information in the data book.*

a. Of all tools that assist the Marine in firing accurately and consistently, the data book, if properly used, is the most valuable asset. It contains a complete record of every shot fired and the weather conditions and their effects on shooting. When used properly, it will assist the Marine in establishing and maintaining a battlesight zero (BZO).

b. Triangulate the shot group to find the center as shown in figure 19.

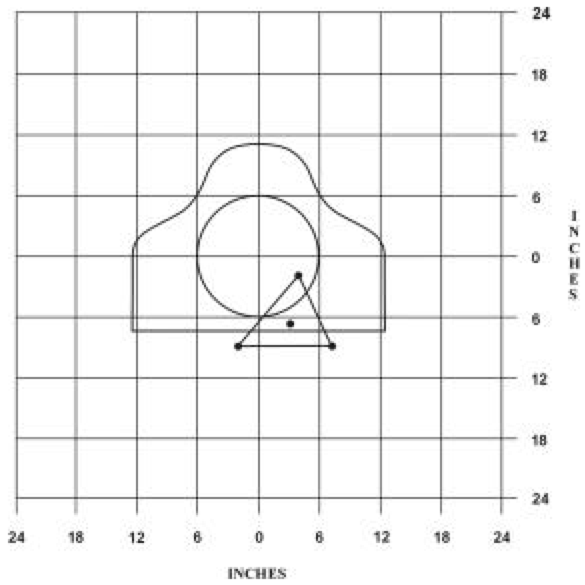


Figure 19

9. Analyze data.

- If your shot group is not in the center of the target, use the squares on the 36-yard BZO target or the databook to calculate the required clicks necessary to move your next shot group to the center. The squares are numbered around the edges of the target to equal the number of clicks required to move the shot group to the center as shown in figure 19.

10. Apply required adjustments to rifle sights.

a. Determine the vertical distance in inches from the center of the shot group to the center of the target.

b. Make elevation adjustments on the front sight post to move the center of the shot group to the center of the target.

c. Rotate the front sight post counterclockwise to lower your next shot group. Rotate the front sight post clockwise to raise your next shot group.

d. Determine the horizontal distance from the center of the shot group to the center of the target.

e. Make lateral adjustments on the windage knob to move the center of the shot group to the center of the target.

f. Turn the windage knob counterclockwise to move the shot group to the left.

g. Turn the windage knob clockwise to move the shot group to the right.

11. Fire a second group. (Repeat steps 6 through 10.)

12. Fire a four-shot group. (Repeat steps 6 through 10.)

13. Record battlesight zero in the data book. (Repeat step 8.)

14. Place recorded battlesight zero in the butt stock of the rifle.

REFERENCE(S):

MCRP 3-01A, *Rifle Marksmanship*
SLR 10, *Zeroing*
SLR 16, *BZO Exercise*

TASK: **MCCS.11.05 (CORE) ENGAGE STATIONARY TARGETS WITH THE M16A2 SERVICE RIFLE AT KNOWN DISTANCES**

CONDITION: **GIVEN AN M16A2 SERVICE RIFLE, 782-GEAR, AMMUNITION, AND TARGETS.**

STANDARD: **TO ACHIEVE A QUALIFYING SCORE WITH THE WEAPON PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given an M16A2 service rifle, 782-gear, ammunition, and targets.

Standard: To achieve a qualifying score with the weapon per the reference.

PERFORMANCE STEPS:

1. *Handle the weapon safely*.

a. Apply the following safety rules at all times to ensure that only the intended target is engaged.

SAFETY RULES	
Rule 1	Treat every weapon as if it were loaded.
Rule 2	Never point a weapon at anything you do not intend to shoot.
Rule 3	Keep your finger straight and off the trigger until you are ready to fire.
Rule 4	Keep the weapon on safe until you intend to fire.

b. A weapon's readiness/safety is described by one of four conditions. The steps in the loading and unloading process take the rifle through four specific conditions of readiness for live fire.

CONDITION CODES	
Condition 1	Safety on, magazine inserted, round in chamber, bolt forward, ejection port cover closed.
Condition 2	Not applicable to the M16A2 rifle.
Condition 3	Safety on, magazine inserted, chamber empty, bolt forward, ejection port cover closed.
Condition 4	Safety on, magazine removed, chamber empty, bolt forward, ejection port cover closed.

c. Weapon commands dictate the specific conditions required to load and unload the rifle.

COMMANDS	
Load	Takes the weapon from condition 4 to condition 3.
Make Ready	Takes the weapon from condition 3 to condition 1.
Fire	Specifies when a Marine may engage targets.
Cease Fire	Specifies when a Marine must stop target engagement.
Unload	Takes the weapon from any condition to condition 4.
Unload Show Clear	When a second individual must check the weapon to verify that no ammunition is present before the rifle is placed in condition 4.

2. *Assume the firing position.*

- Selecting a Firing Position. The selection of a firing position (prone, sitting, kneeling, standing) is based on terrain, available cover, dispersion of targets, and other limiting factors. A Marine must select a position that offers stability, mobility, and observation.

  (1) Stability. A firing position must provide a stable platform for accurate and consistent shooting. If the position is solid, the rifle sights should recover after recoil to the same position on the target. This allows for rapid reengagement of the enemy. The prone position provides the most stability for firing, while the standing position provides the least stability.

(2) Mobility. A firing position must provide a Marine with the mobility required to move to new cover or to another area. The standing position permits maximum mobility. It allows the most lateral movement for engagement of widely dispersed targets. The prone position allows the least mobility and allows limited lateral movement.

(3) Observation of the Enemy. A firing position must limit a Marine's exposure to the enemy, yet allow observation of the enemy. Manmade structures and terrain features (e.g., vegetation, earth contours) often dictate the shooting position. The standing position normally provides the best field of view, but it usually allows the most exposure to the enemy. The prone position normally allows the least exposure, but it usually provides a limited field of view.

3. *Place the rifle in condition 3.*

a. Ensure the weapon is in condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine to make sure it is seated.

f. Fasten the magazine pouch.

g. Close the ejection port cover.

4. *Place the rifle in condition 1.*

a. Ensure the weapon is in condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine to make sure it is seated.

f. Pull the charging handle to the rear and release. There are two methods of doing this.

(1) Grip the pistol grip firmly with the right hand and pull the charging handle with the left hand to its rearmost position and release.

(2) Grip the handguards firmly with the left hand and pull the charging handle with the right hand to its rearmost position and release.

g. To ensure ammunition has been chambered, conduct a chamber check if the tactical situation permits.

h. Check the sights to ensure proper BZO setting, correct rear sight aperture, etc.

i. Close the ejection port cover if time and situation permits.

5. *Engage target.*

a. A Marine must maintain the ability to react instinctively in a combat environment—day or night. He or she must possess a combat mindset that eliminates any hesitation, fear, or uncertainty of action, allowing him or her to engage the enemy rapidly and focusing on the actions required to fire well aimed shots. A Marine must remember that speed alone does not equate to effective target engagement. He or she should fire only as fast as he or she can fire accurately. He or she should never exceed his or her physical capability to engage a target effectively. To be effective in combat, a Marine must train to perfect the physical skills of target engagement (such as presenting the weapon and assuming a shooting position) until they become instinctive. In addition, a Marine must employ effective engagement techniques that enable the acquisition and engagement of a variety of targets in diverse combat conditions.

b. To be proficient, a Marine rifleman must be able to detect targets, determine the range to targets, and accurately engage the targets. There are many variables affecting a Marine’s ability to detect and determine the range to combat targets. An enemy rarely fails to use some type of cover or concealment when he or she is in the vicinity of Marine units. Enemy targets on the battlefield may be single or multiple, stationary or moving, or completely hidden from view. Success in locating an enemy target will depend upon the observer’s position, his or her skill in searching an area, and his or her ability to recognize target indicators.

6. Fire well aimed shots.

- Apply the fundamentals of marksmanship and fire well aimed shots. The fundamentals of marksmanship are aim, breath control, and trigger control. These fundamentals provide the foundation for all marksmanship principles and skills. For rifle fire to be effective, it must be accurate. A rifleman who merely sprays shots in the vicinity of the enemy produces little effect. The fundamentals of marksmanship, when applied correctly, form the basis for delivering accurate fire on enemy targets. These skills must be developed so that they are applied instinctively. During combat, the fundamentals of marksmanship must be applied in a limited time frame, which corresponds to the size and the distance of the target. At longer ranges, the target is smaller and a more precise shot is required to accurately engage the target. The fundamentals are more critical to accurate engagement as the range to the target increases. To be accurate at longer ranges, the Marine must take the time to slow down and accurately apply the fundamentals. At shorter ranges, the enemy must be engaged quickly before it engages the Marine. As the size of the target increases, and the distance to the target decreases, the fundamentals, while still necessary, become less critical to accuracy. In combat, a Marine must apply proper aiming, breathing, and trigger control techniques without hesitation.

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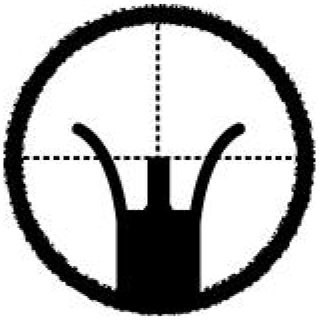

Figure 1

(2) Sight Picture. Sight picture is the placement of the tip of the front sight post in relation to the target while maintaining sight alignment. Correct sight alignment. Improper sight placement on the target will cause the bullet to impact the target incorrectly. To achieve correct sight picture, place the tip of the front sight post at the center of the target while maintaining sight alignment (see figure 2). Center of mass is the correct aiming point so that point of aim/point of impact is achieved.

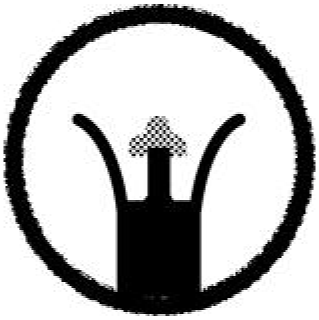

Figure 2

7. *Assess the shot group.*

a. Triangulate the shot group to find the center as shown in figure 3.

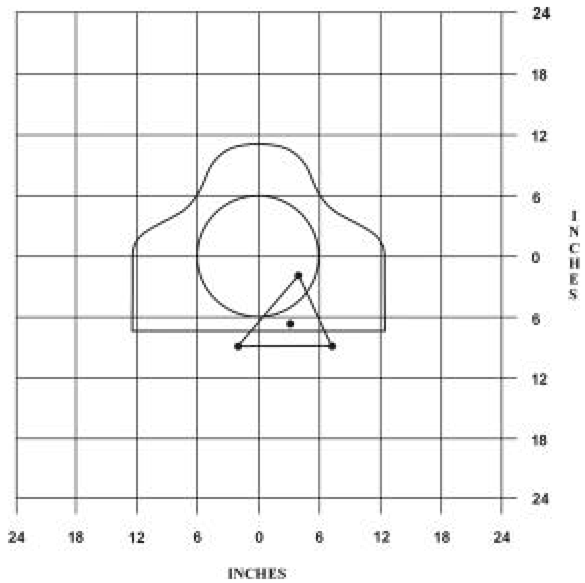

Figure 3

b. Determine the vertical distance in inches from the center of the shot group to the center of the target.

c. Make elevation adjustments on the front sight post to move the center of the shot group to the center of the target.

d. Determine the horizontal distance from the center of the shot group to the center of the target.

e. Make lateral adjustments on the windage knob to move the center of the shot group to the center of the target.

REFERENCE(S):

MCRP 3-01A, *Rifle Marksmanship*
SLR .12, *Known Distance (KD) Course of Fire*

TASK: **MCCS.11.06 (CORE) ENGAGE TARGETS OF LIMITED EXPOSURE (TIME) WITH THE M16A2 SERVICE RIFLE**

CONDITION: **GIVEN AN M16A2 SERVICE RIFLE, 782-GEAR, AMMUNITION, AND MAN-SIZED TARGETS.**

STANDARD: **TO ACHIEVE 12 HITS OUT OF 20 ROUNDS FIRED PER THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given an M16A2 service rifle, 782-gear, ammunition, and man-sized targets.

Standard: To achieve 12 hits out of 20 rounds fired per the references.

PERFORMANCE STEPS:

1. *Handle the weapon safely.*

a. Apply the following safety rules at all times to ensure that only the intended target is engaged.

SAFETY RULES	
Rule 1	Treat every weapon as if it were loaded.
Rule 2	Never point a weapon at anything you do not intend to shoot.
Rule 3	Keep your finger straight and off the trigger until you are ready to fire.
Rule 4	Keep the weapon on safe until you intend to fire.

b. A weapon's readiness/safety is described by one of four conditions. The steps in the loading and unloading process take the rifle through four specific conditions of readiness for live fire.

CONDITION CODES	
Condition 1	Safety on, magazine inserted, round in chamber, bolt forward, ejection port cover closed
Condition 2	Not applicable to the M16A2 rifle
Condition 3	Safety on, magazine inserted, chamber empty, bolt forward, ejection port cover closed
Condition 4	Safety on, magazine removed, chamber empty, bolt forward, ejection port cover closed

c. Weapon commands dictate the specific conditions required to load and unload the rifle.

COMMANDS	
Load	Takes the weapon from condition 4 to condition 3.
Make Ready	Takes the weapon from condition 3 to condition 1.
Fire	Specifies when a Marine may engage targets.
Cease Fire	Specifies when a Marine must stop target engagement.
Unload	Takes the weapon from any condition to condition 4.
Unload Show Clear	Second individual checks the weapon to verify that no ammunition is present before the rifle is placed in condition 4.

2. *Place the rifle in condition 3.*

a. Ensure the weapon is in condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine to make sure it is seated.

f. Fasten the magazine pouch.

g. Close the ejection port cover.

3. Place the rifle in condition 1.

a. Ensure the weapon is in condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine to make sure it is seated.

f. Pull the charging handle to the rear and release. There are two methods of doing this.

  (1) Grip the pistol grip firmly with the right hand and pull the charging handle with the left hand to its rearmost position and release.

  (2) Grip the handguards firmly with the left hand and pull the charging handle with the right hand to its rearmost position and release.

g. To ensure ammunition has been chambered, conduct a chamber check if the tactical situation permits.

h. Check the sights to ensure proper BZO setting, correct rear sight aperture, etc.

i. Close the ejection port cover if time and situation permits.

4. Fire well aimed shots.

- Apply the fundamentals of marksmanship and fire well aimed shots. The fundamentals of marksmanship are aim, breath control, and trigger control. These fundamentals provide the foundation for all marksmanship principles and skills. For rifle fire to be effective, it must be accurate. A rifleman who merely sprays shots in the vicinity of the enemy produces little effect. The fundamentals of marksmanship, when applied correctly, form the basis for delivering accurate fire on enemy targets. These skills must be developed so that they are applied instinctively. During combat, the fundamentals of marksmanship must be applied in a limited time frame which corresponds to the size and the distance of the target. At longer ranges, the target is smaller and a more precise shot is required to accurately engage the target. The fundamentals are more critical to accurate engagement as the range to the target increases. To be accurate at longer ranges, the Marine must take the time to slow down and accurately apply the fundamentals. At shorter ranges, the enemy must be engaged quickly before it engages the Marine. As the size of the target increases, and the distance to the target decreases, the fundamentals, while still necessary, become less critical to accuracy. In combat, a Marine must apply proper aiming, breathing, and trigger control techniques without hesitation.

  (1) Sight Alignment. Sight alignment is the relationship between the front sight post and rear sight aperture and the aiming eye. This relationship is the most critical to aiming and must remain consistent from shot to shot. To achieve correct sight alignment (see figure 1), center the tip of the front sight post vertically and horizontally in the rear sight aperture. Imagine a horizontal line drawn through the center of the rear sight aperture. The top of the front sight post will appear to touch this line. Imagine a vertical line drawn through the center of the rear sight aperture. The line will appear to bisect the front sight post.

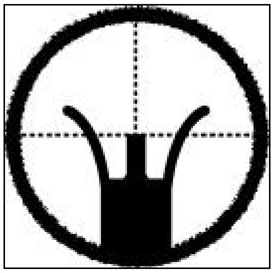

Figure 1

(2) Sight Picture. Sight picture is the placement of the tip of the front sight post in relation to the target while maintaining sight alignment. Correct sight alignment. Improper sight placement on the target will cause the bullet to impact the target incorrectly. To achieve correct sight picture, place the tip of the front sight post at the center of the target while maintaining sight alignment (see figure 2). Center of mass is the correct aiming point so that point of aim/point of impact is achieved.

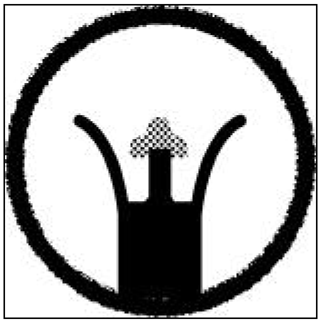

Figure 2

(3) The sighting system for the M16A2 rifle is designed to work using a center of mass sight picture.

(4) In combat, targets are often indistinct and oddly shaped. The center of mass hold provides a consistent aiming point as shown in figure 3.

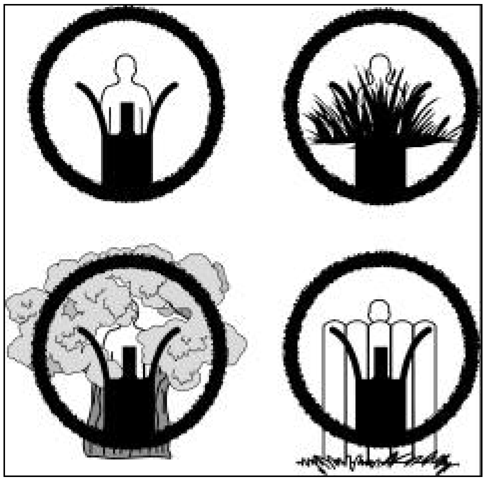

Figure 3

5. *Present the rifle to the target while assuming a firing position.*

a. In a combat environment, targets may present themselves with little or no warning. To maintain an advantage, the Marine carries his weapon in a position appropriate to the threat level that permits the rifle to be easily carried but also presented as quickly as possible. A carry is also established based on the situation such as moving in a close quarter environment, moving over or under objects, etc.

b. Presenting the Rifle From the Tactical Carry. At the Tactical Carry, no immediate threat is present. This carry permits the rifle to be easily carried for long periods of time, but it does not permit the quickest presentation to a target. If the situation changes and a target presents itself, a Marine performs the following steps to present the rifle from the Tactical Carry once a target appears:

(1) Extend the rifle toward the target keeping the muzzle slightly up so the buttstock clears all personal equipment. Continue to look at the target.

(2) At the same time, place the rifle in condition 1. There are two methods of placing the rifle in condition 1 if it is in condition 3:

(3) Grip the pistol grip firmly with the right hand. Pull the charging handle with the left hand to its rearmost position and release as shown in figure 4.

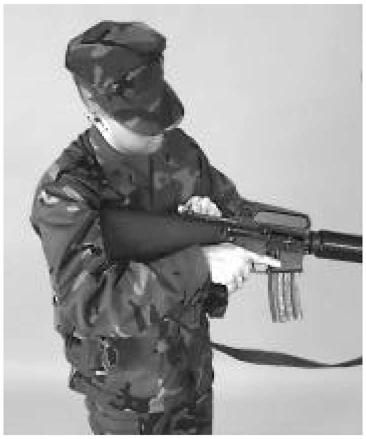

Figure 4

(4) Grip the handguards firmly with the left hand. Pull the charging handle with the right hand to its rearmost position and release as shown in figure 5.

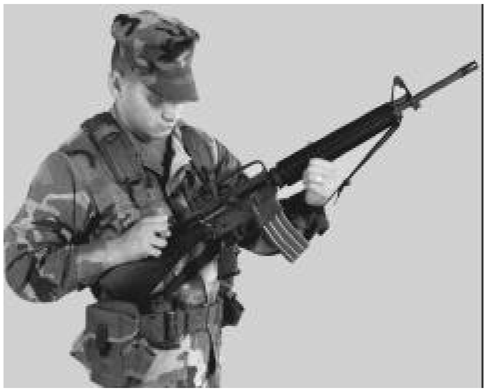

Figure 5

(5) As the rifle is being presented, take the rifle off safe and place the trigger finger on the trigger as shown in figures 6, 7, and 8.

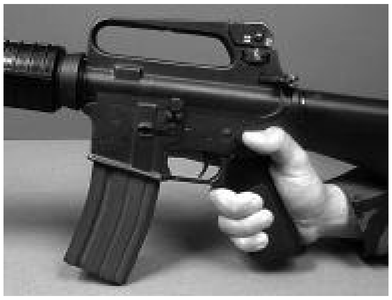

Figure 6

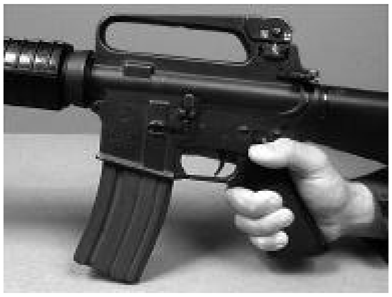

Figure 7

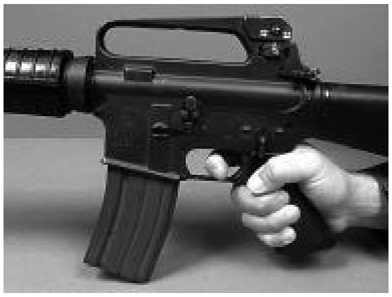

Figure 8

(6) Level the rifle while pulling it firmly into the pocket of the shoulder to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(7) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment, and place the tip of the post center of mass on the target to obtain sight picture.

c. Presenting the Rifle From the Alert and From the Ready. At the Alert, enemy contact is likely. The Alert is also used for moving in urban or other restrictive terrain where targets present themselves in close quarters. At the Ready, enemy contact is imminent. To present the rifle from the Alert, a Marine performs the following steps once a target appears:

(1) While looking at the target, bring the muzzle up by raising the left hand, allowing the rifle butt to pivot in the shoulder. At the same time, pull the rifle firmly into the pocket of the shoulder.

(2) As the rifle is being presented, take the rifle off safe and place the trigger finger on the trigger (see figures 6, 7, and 8).

(3) As the stock makes contact with the cheek, level the rifle to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(4) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment, and place the tip of the post center of mass on the target to obtain sight picture.

d. Presenting the Rifle From the Strong Side Sling Arms Transport. To present the rifle from Strong Side Sling Arms, a Marine performs the following steps once a target appears.

(1) While looking at the target, lean forward slightly to facilitate removal of the rifle from the shoulder.

(2) Reach under the right arm with the left hand between the sling and the body and grasp the handguards as shown in figure 9. At the same time, pull down on the sling and raise the right elbow out and parallel to the deck.

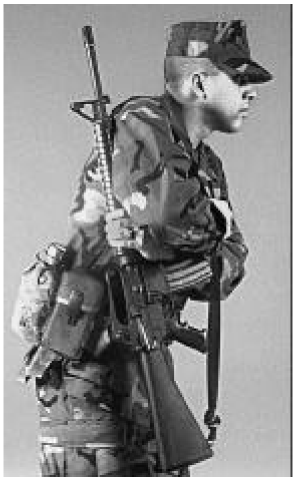

Figure 9

(3) Roll the right shoulder forward and release the sling from the right hand once the handguards have cleared the elbow. At the same time, pull the rifle forward off the shoulder with the left hand.

(4) Continue pulling the rifle forward with the left hand while rotating the rifle parallel to the deck. When the right arm is free of the sling and the rifle clears all personal gear, grasp the charging handle with the right hand as shown in figure 10 and pull it to its rearmost position and release.

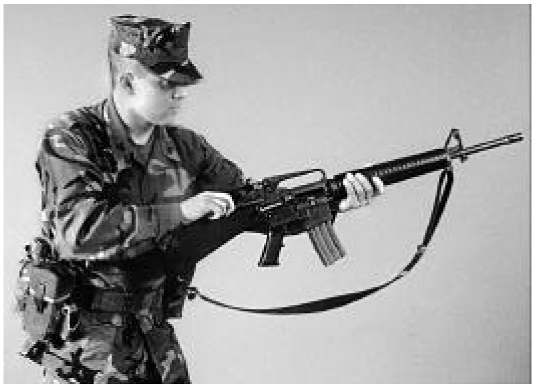

Figure 10

(5) Establish a firing grip with the left hand while keeping the trigger finger straight along the receiver.

(6) Take the rifle off safe and place the trigger finger on the trigger as shown in figures 6, 7, and 8.

(7) Level the rifle while pulling it firmly into the pocket of the shoulder to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

e. As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment, and place the tip of the post center of mass on the target to obtain sight picture.

f. Presenting the Rifle From the Weak Side Sling Arms Transport. The hasty sling should be maintained while presenting the rifle from this transport. To present the rifle from Weak Side Sling Arms, a Marine performs the following steps once a target appears:

(1) While looking at the target, lean forward slightly to facilitate removal of the rifle from the shoulder.

(2) Grasp the sling with the right hand to prevent the rifle from falling off the shoulder.

(3) Grasp the handguards with the left hand (the index finger points toward the muzzle) as shown in figure 11.

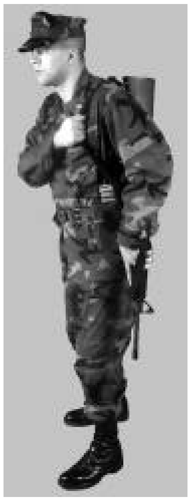

Figure 11

(4) Rotate the rifle counterclockwise (until the magazine rests on the left forearm) while extending the muzzle toward the target.

(5) Continue extending the rifle toward the target to ensure the rifle clears all personal gear.

(6) Grasp the charging handle with the right hand and pull it to its rearmost position and release as shown in figure 12.

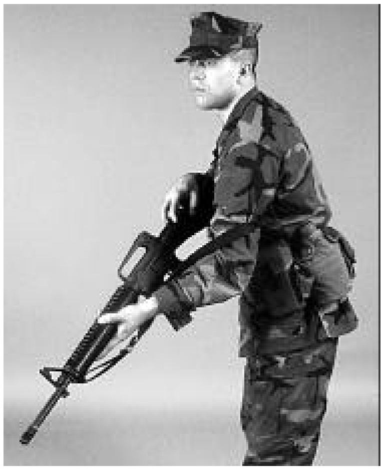

Figure 12

(7) Establish a firing grip with the right hand while keeping the trigger finger straight along the receiver.

(8) Take the rifle off safe and place the trigger finger on the trigger as shown in figures 6, 7, and 8.

g. Level the rifle while pulling it firmly into the pocket of the shoulder to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(9) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment, and place the tip of the post center of mass on the target to obtain sight picture.

6. Engage target.

a. A Marine must maintain the ability to react instinctively in a combat environment—day or night. He or she must possess a combat mindset that eliminates any hesitation, fear, or uncertainty of action, allowing him or her to engage the enemy rapidly, and allowing him to focus on the actions required to fire well aimed shots. A Marine must remember that speed alone does not equate to effective target engagement. He or she should fire only as fast as he or she can fire accurately. He or she should never exceed his or her physical capability to engage a target effectively. To be effective in combat, a Marine must train to perfect the physical skills of target engagement (such as presenting the weapon and assuming a shooting position) until they become instinctive. In addition, a Marine must employ effective engagement techniques that enable the acquisition and engagement of a variety of targets in diverse combat conditions.

b. To be proficient, a Marine rifleman must detect targets, determine the range to targets, and accurately engage the targets. There are many variables affecting a Marine's ability to detect and determine the range to combat targets. An enemy rarely fails to use some type of cover or concealment when he or she is in the vicinity of Marine units. Enemy targets on the battlefield may be single or multiple, stationary or moving, or completely hidden from view. Success in locating an enemy target will depend upon the observer's position, his or her skill in searching an area, and his or her ability to recognize target indicators.

7. Assume the "ready."

- A Marine carries the rifle at the ready if contact with the enemy is imminent. The ready allows immediate target engagement, but it is very tiring to maintain over a long period of time. A Marine performs the following steps to assume the ready.

(1) Place the left hand on the handguards, the right hand around the pistol grip, the trigger finger straight along the receiver as shown in figure 13, and the right thumb on top of the selector lever as shown in figure 14.

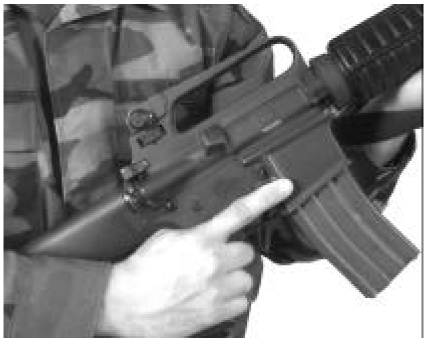

Figure 13

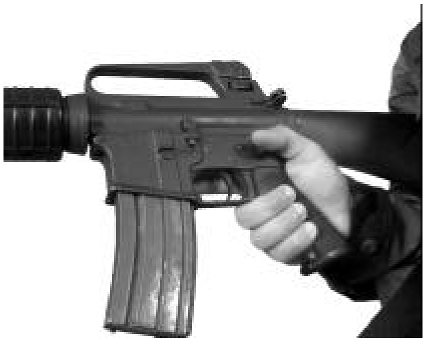

Figure 14

(2) Place the buttstock in the shoulder.

(3) Point the muzzle in the direction of the enemy.

(4) Lower the sights to just below eye level so that a clear field of view is maintained so a target may be identified as shown in figure 15.

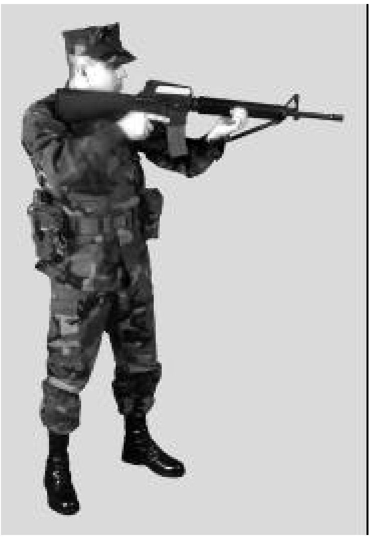

Figure 15

8. *Search and assess the situation.*

a. After a Marine engages a target, he or she must immediately search the area and assess the results of his or her engagement. Searching and assessing enables the Marine to avoid tunnel vision that can restrict the focus so an indication of other targets is overlooked.

b. The Marine searches the area for additional targets or for cover. The Marine assesses the situation to determine if he or she needs to reengage a target, engage a new target, take cover, assume a more stable position, or cease engagement.

c. The Marine moves only as fast as he or she is capable of delivering well-aimed shots on target. The speed of engagement should not exceed physical abilities. To search and assess, a Marine performs the following steps.

(1) Keeping the buttstock in the shoulder, lower the muzzle of the rifle slighty to look over the sights.

(2) Place the trigger finger straight along the receiver as shown in figure 16.

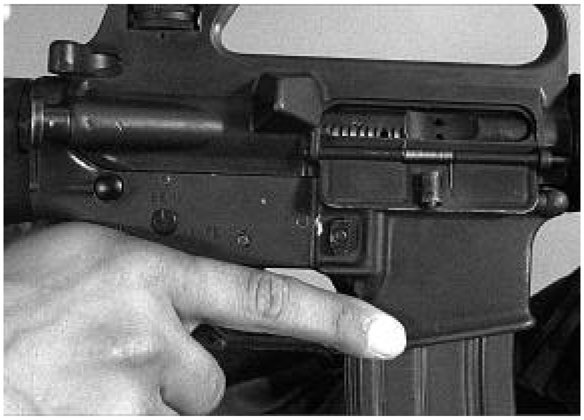

Figure 16

(3) Search the area and assess the situation/threat by moving the head, eyes, and rifle left and right to cover the immediate area. The muzzle moves with the head and eyes in one fluid motion while searching. Keep both eyes open to increase the field of view.

(4) Once a Marine determines the area is clear of enemy threat, he or she places the rifle on safe.

REFERENCE(S):

MCRP 3-01A, *Rifle Marksmanship*
SLR .19, *Detailed Instructor Guides*

TASK: **MCCS.11.07 (CORE) ENGAGE TARGETS DURING LOW LIGHT AND DARKNESS WITH THE M16A2 SERVICE RIFLE**

CONDITION: **GIVEN AN M16A2 SERVICE RIFLE, 782-GEAR, AMMUNITION, AND MAN-SIZED TARGETS AND ARTIFICIAL ILLUMINATION.**

STANDARD: **TO ACHIEVE 18 HITS OUT OF 30 ROUNDS FIRED PER THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given an M16A2 service rifle, 782-gear, ammunition, and man-sized targets and artificial illumination.

Standard: To achieve 18 hits out of 30 rounds fired per the references.

PERFORMANCE STEPS:

1. *Handle the weapon safely*.

a. Apply the following safety rules at all times to ensure that only the intended target is engaged.

SAFETY RULES	
Rule 1	Treat every weapon as if it were loaded.
Rule 2	Never point a weapon at anything you do not intend to shoot.
Rule 3	Keep your finger straight and off the trigger until you are ready to fire.
Rule 4	Keep the weapon on safe until you intend to fire.

b. A weapon's readiness/safety is described by one of four conditions. The steps in the loading and unloading process take the rifle through four specific conditions of readiness for live fire.

CONDITION CODES	
Condition 1	Safety on, magazine inserted, round in chamber, bolt forward, ejection port cover closed.
Condition 2	Not applicable to the M16A2 rifle.
Condition 3	Safety on, magazine inserted, chamber empty, bolt forward, ejection port cover closed.
Condition 4	Safety on, magazine removed, chamber empty, bolt forward, ejection port cover closed.

c. Weapon commands dictate the specific conditions required to load and unload the rifle.

COMMANDS	
Load	Takes the weapon from condition 4 to condition 3.
Make Ready	Takes the weapon from condition 3 to condition 1.
Fire	Specifies when a Marine may engage targets.
Cease Fire	Specifies when a Marine must stop target engagement.
Unload	Takes the weapon from any condition to condition 4.
Unload Show Clear	Specifies when a second individual must check the weapon to verify that no ammunition is present before the rifle is placed in condition 4.

2. *Acquire night vision.*

a. Combat targets are frequently engaged during periods of darkness or under low-light conditions. Basic marksmanship fundamentals do not change, however, the principles of night vision must be applied and target detection is applied differently. During periods of darkness or low light, a Marine's vision is extremely limited. A Marine must apply the techniques of night observation to detect potential targets, and he or she must develop skills that allow him or her to engage targets under these conditions.

b. Night Vision. A Marine can improve his or her ability to see during periods of darkness or low light by obtaining and maintaining night vision. Since adapting to night vision is a slow and gradual process, steps should be taken to protect night vision once it is obtained.

(1) Obtaining Night Vision. There are two methods used to obtain night vision. The first method is to remain in an area of darkness for about 30 minutes. This area can be indoors or outdoors. The major disadvantage of this approach is that an individual is not able to perform any tasks while acquiring night vision in total darkness. The second method is to remain in a darkened area under low intensity red light (similar to the light used in a photographer's darkroom) for about 20 minutes, followed by about 10 minutes in darkness without the red light. This method produces almost complete night vision adaptation while permitting the performance of some tasks during the adjustment period.

(2) Maintaining Night Vision. Because the eyes take a long time to adjust to darkness, it is important to protect night vision once it is acquired. To maintain night vision

(a) Avoid looking at any bright light. Bright light will reactivate the cones in the eye and deactivate the rods, eliminating night vision and requiring re-adaptation.

(b) Shield the eyes from parachute flares, spotlights, or headlights.

(c) When using a flashlight to read a map or other material

1. Put one hand over the glass to limit the area illuminated and the intensity of the light. Keeping one eye shut will reduce the amount of night vision lost.

2. Cover the light with a red filter to help reduce the loss of night vision.

3. Minimize the time spent using a flashlight.

c. Factors Effecting Night Vision. Some physical factors may effect your night vision and reduce your ability to see as clearly as possible in low light or darkness. These factors include

(1) Fatigue

(2) Lack of oxygen

(3) Long exposure to sunlight

(4) Heavy smoking

(5) Drugs

(6) Headaches

(7) Illness

(8) Consumption of alcohol within the past 48 hours

(9) Improper diet

3. Place the rifle in condition 3.

a. Ensure the weapon is in condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine.

f. Fasten the magazine pouch.

g. Close the ejection port cover.

4. *Place the rifle in condition 1.*

a. Ensure the weapon is in condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine to make sure it is seated.

f. Pull the charging handle to the rear and release. There are two methods:

   (1) Grip the pistol grip firmly with the right hand and pull the charging handle with the left hand to its rearmost position and release.

   (2) Grip the handguards firmly with the left hand and pull the charging handle with the right hand to its rearmost position and release.

g. To ensure ammunition has been chambered, conduct a chamber check if the tactical situation permits.

h. Check the sights to ensure proper BZO setting, correct rear sight aperture, etc.

i. Close the ejection port cover, if time and situation permit.

5. *Apply the eye, muzzle, target technique.*

a. Apply the fundamentals of marksmanship and fire well aimed shots. The fundamentals of marksmanship are aiming, breath control, and trigger control. These fundamentals provide the foundation for all marksmanship principles and skills. For rifle fire to be effective, it must be accurate. A rifleman who merely sprays shots in the vicinity of the enemy produces little effect. The fundamentals of marksmanship, when applied correctly, form the basis for delivering accurate fire on enemy targets. These skills must be developed so that they are applied instinctively. During combat, the fundamentals of marksmanship must be applied in a limited time frame that corresponds to the size and the distance of the target. At longer ranges, the target is smaller and a more precise shot is required to accurately engage the target. The fundamentals are more critical to accurate engagement as the range to the target increases. To be accurate at longer ranges, the Marine must take the time to slow down and accurately apply the fundamentals. At shorter ranges, the enemy must be engaged quickly before it engages the Marine. As the size of the target increases and the distance to the target decreases, the fundamentals, while still necessary, become less critical to accuracy. In combat, a Marine must apply proper aiming, breathing, and trigger control techniques without hesitation.

   (1) Sight Alignment. Sight alignment is the relationship between the front sight post and rear sight aperture and the aiming eye. This relationship is the most critical to aiming and must remain consistent from shot to shot. To achieve correct sight alignment, center the tip of the front sight post vertically and horizontally in the rear sight aperture as shown in figure 1. Imagine a horizontal line drawn through the center of the rear sight aperture. The top of the front sight post will appear to touch this line. Now, envision a vertical line drawn through the center of the rear sight aperture. The line will appear to bisect the front sight post.

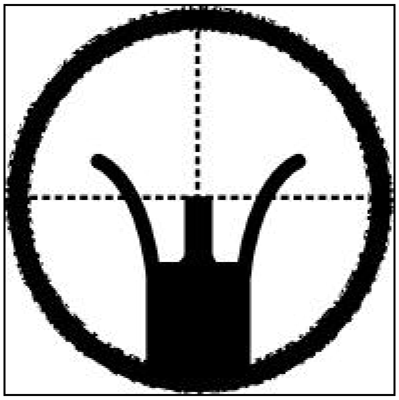

Figure 1

(2) Sight Picture. Sight picture is the placement of the tip of the front sight post in relation to the target while maintaining sight alignment. Improper sight placement on the target will cause the bullet to impact the target incorrectly. To achieve correct sight picture, place the tip of the front sight post at the center of the target while maintaining sight alignment as shown in figure 2. Center of mass is the correct aiming point so the point of aim/point of impact is achieved.

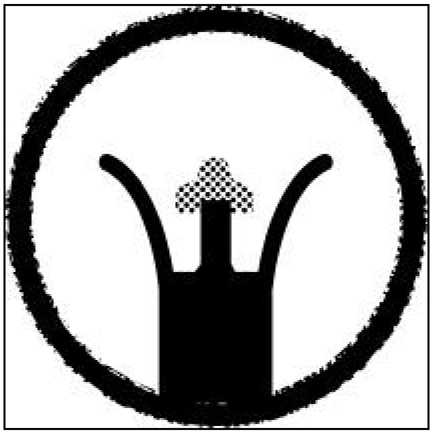

Figure 2

(3) The sighting system for the M16A2 rifle is designed to work using a center mass sight picture.

(4) In combat, targets are often indistinct and oddly shaped. The center of mass hold provides a consistent aiming point as shown in figure 3.

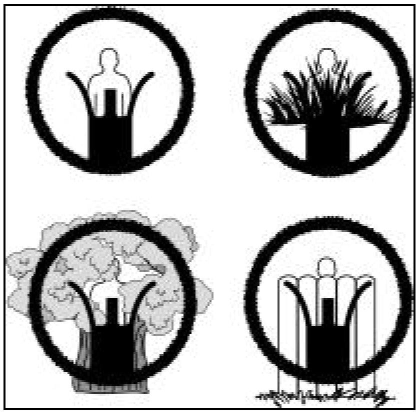

Figure 3

6. *Present the rifle to the target while assuming a firing position.*

a. In a combat environment, targets may present themselves with little or no warning. To maintain an advantage, the Marine carries his or her weapon in a position appropriate to the threat level that permits the rifle to be easily carried, as well as presented as quickly as possible. A carry is also established based on the situation such as moving in a close quarter environment, moving over or under objects, etc.

b. Presenting the Rifle from the Tactical Carry. At the tactical carry, no immediate threat is present. This carry permits the rifle to be easily carried for long periods of time, but it does not permit the quickest presentation to a target. If the situation changes and a target presents itself, a Marine performs the following steps to present the rifle from the tactical carry once a target appears:

(1) Extend the rifle toward the target, keeping the muzzle slightly up so the buttstock clears all personal equipment. Continue to look at the target.

(2) Simultaneously, place the rifle in condition 1. There are two methods of placing the rifle in condition 1 if it is in condition 3:

   (a) Grip the pistol grip firmly with the right hand. Pull the charging handle with the left hand to its rearmost position and release as shown in figure 4.

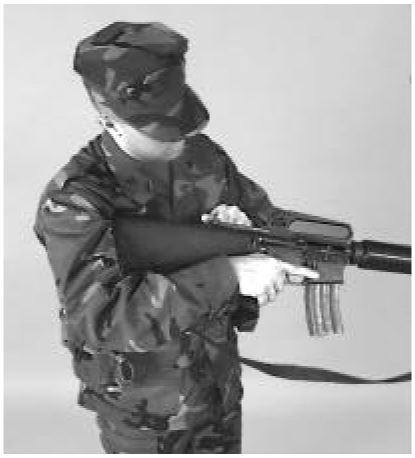

Figure 4

   (b) Grip the handguards firmly with the left hand. Pull the charging handle with the right hand to its rearmost position and release as shown in figure 5.

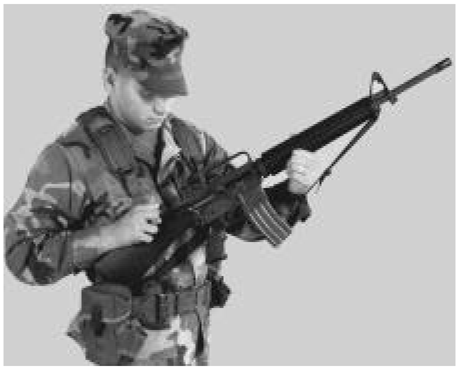

Figure 5

(3) As the rifle is being presented, take the rifle off safe and place the trigger finger on the trigger as shown in figures 6, 7, and 8.

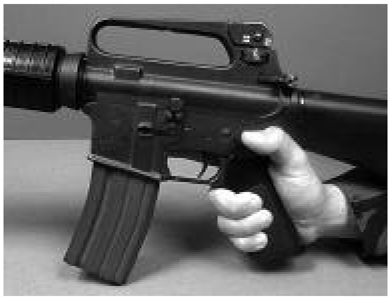

Figure 6

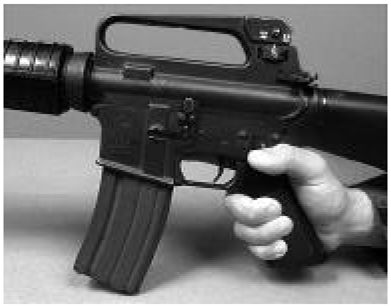

Figure 7

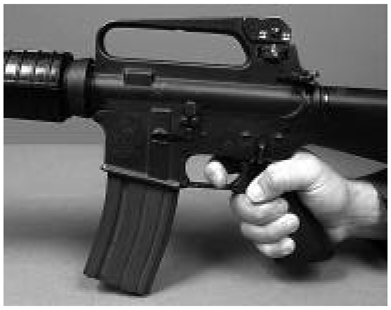

Figure 8

(4) Level the rifle while pulling it firmly into the pocket of the shoulder to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(5) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment and place the tip of the post center of mass on the target to obtain sight picture.

c. Presenting the Rifle from the Alert and from the Ready. At the Alert, enemy contact is likely. The alert is also used for moving in urban or other restrictive terrain where targets present themselves in close quarters. At the ready, enemy contact is imminent. To present the rifle from the alert, a Marine performs the following steps once a target appears:

(1) While looking at the target, bring the muzzle up by raising the left hand, allowing the rifle butt to pivot in the shoulder. At the same time, pull the rifle firmly into the pocket of the shoulder.

(2) As the rifle is being presented, take the rifle off safe and place the trigger finger on the trigger as shown in figures 6, 7, and 8.

(3) As the stock makes contact with the cheek, level the rifle to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(4) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment and place the tip of the post center of mass on the target to obtain sight picture.

d. Presenting the Rifle from the Strong Side Sling Arms Transport. To present the rifle from strong side sling arms, a Marine performs the following steps once a target appears:

(1) While looking at the target, lean forward slightly to facilitate removal of the rifle from the shoulder.

(2) Reach under the right arm with the left hand between the sling and the body and grasp the handguards as shown in figure 9. At the same time, pull down on the sling and raise the right elbow out and parallel to the deck.

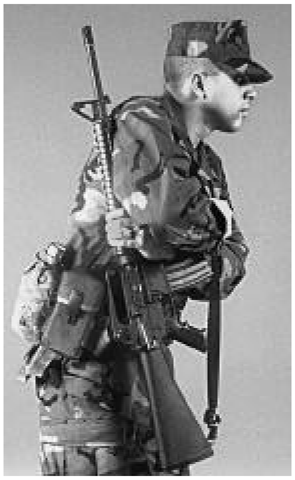

Figure 9

(3) Roll the right shoulder forward and release the sling from the right hand once the handguards have cleared the elbow. At the same time, pull the rifle forward off the shoulder with the left hand.

(4) Continue pulling the rifle forward with the left hand while rotating the rifle parallel to the deck. When the right arm is free of the sling and the rifle clears all personal gear, grasp the charging handle with the right hand as shown in figure 10 and pull it to its rearmost position and release.

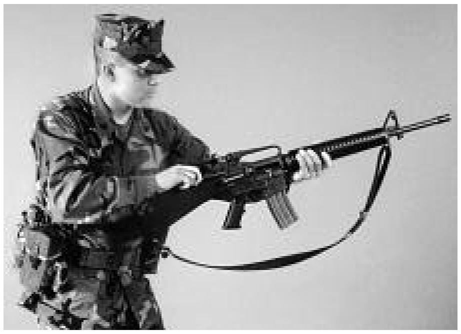

Figure 10

(5) Establish a firing grip with the right hand while keeping the trigger finger straight along the receiver.

(6) Take the rifle off safe and place the trigger finger on the trigger as shown in figures 6, 7, and 8.

(7) Level the rifle while pulling it firmly into the pocket of the shoulder to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(8) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment and place the tip of the post center of mass on the target to obtain sight picture.

e. Presenting the Rifle from the Weak Side Sling Arms Transport. The hasty sling should be maintained while presenting the rifle from this transport. To present the rifle from weak side sling arms, a Marine performs the following steps once a target appears:

(1) While looking at the target, lean forward slightly to facilitate removal of the rifle from the shoulder.

(2) Grasp the sling with the right hand to prevent the rifle from falling off the shoulder.

(3) Grasp the handguards with the left hand with the index finger pointing toward the muzzle as shown in figure 11.

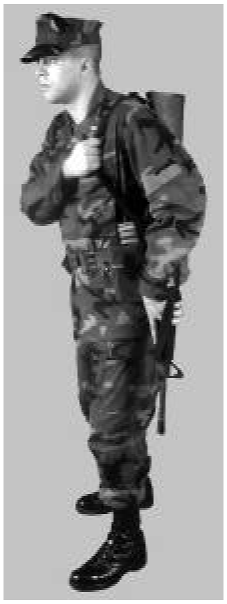

Figure 11

(4) Rotate the rifle counterclockwise until the magazine rests on the left forearm while extending the muzzle toward the target.

(5) Continue extending the rifle toward the target to ensure the rifle clears all personal gear.

(6) Grasp the charging handle with the right hand and pull it to its rearmost position and release as shown in figure 12.

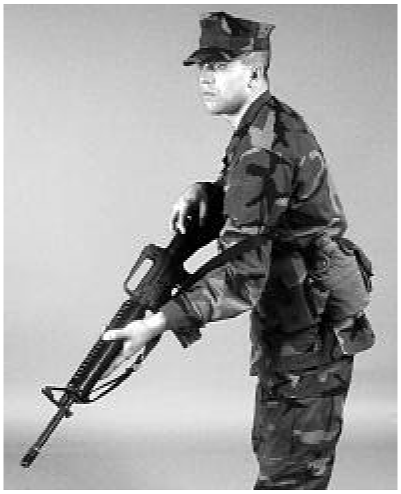

Figure 12

(7) Establish a firing grip with the right hand while keeping the trigger finger straight along the receiver.

(8) Take the rifle off safe and place the trigger finger on the trigger as shown in figures 6, 7, and 8.

(9) Level the rifle while pulling it firmly into the pocket of the shoulder to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(10) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment and place the tip of the post center mass on the target to obtain sight picture.

7. *Engage the target.*

a. A Marine must maintain the ability to react instinctively in a combat environment—day or night. He must possess a combat mindset that eliminates any hesitation, fear, or uncertainty of action. Such an approach allows the Marine to engage the enemy rapidly and to focus on the actions required, firing well-aimed shots. A Marine must remember that speed alone does not equate to effective target engagement. He should fire only as fast as he can fire accurately. He should never exceed his physical capability to engage a target effectively. To be effective in combat, a Marine must train to perfect the physical skills of target engagement (such as presenting the weapon and assuming a shooting position) until they become instinctive. In addition, a Marine must employ effective engagement techniques that enable the acquisition and engagement of a variety of targets in diverse combat conditions.

b. To be proficient, a Marine rifleman must be able to detect targets, determine the range to targets, and accurately engage the targets. There are many variables affecting a Marine’s ability to detect and determine the range to combat targets. An enemy rarely fails to use some type of cover or concealment when he is in the vicinity of Marine units. Enemy targets on the battlefield may be single or multiple, stationary or moving, or completely hidden from view. Success in locating an enemy target will depend upon the observer’s position, his skill in searching an area, and his ability to recognize target indicators.

8. *Assume the "ready."*

- Ready. A Marine carries the rifle at the ready if contact with the enemy is imminent. The ready allows immediate target engagement, but it is very tiring to maintain over a long period of time. A Marine performs the following steps to assume the ready:

  (1) Place the left hand on the handguards, the right hand around the pistol grip, the trigger finger straight along the receiver as shown in figure 13, and the right thumb on top of the selector lever as shown in figure 14.

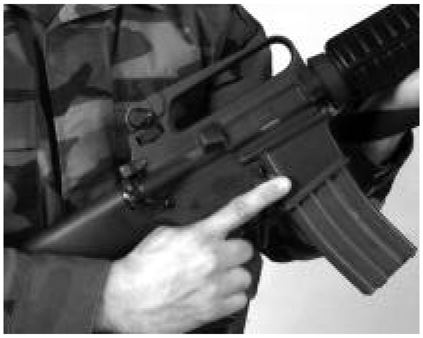

Figure 13

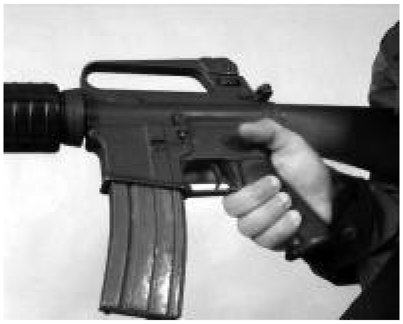

Figure 14

  (2) Place the buttstock in the shoulder.

  (3) Point the muzzle in the direction of the enemy.

  (4) Lower the sights just below eye level so that a clear field of view is maintained to identify a target as shown in figure 15.

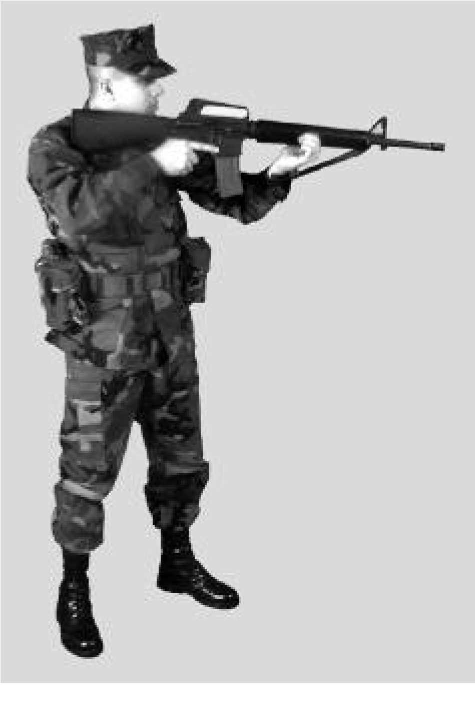

Figure 15

9. *Search and assess the situation.*

a. After a Marine engages a target, he must immediately search the area and assess the results of his engagement. Searching and assessing enables the Marine to avoid tunnel vision that can restrict the focus so that an indication of other targets is not overlooked.

b. The Marine searches the area for additional targets or for cover. The Marine assesses the situation to determine if he needs to re-engage a target, engage a new target, take cover, assume a more stable position, cease engagement, etc.

c. The Marine moves only as fast as he is capable of delivering well-aimed shots on target. The speed of engagement should not exceed physical abilities. To search and assess, a Marine performs the following steps:

(1) Keeping the buttstock in the shoulder, lower the muzzle of the rifle slightly to look over the sights.

(2) Place the trigger finger straight along the receiver as shown in figure 16.

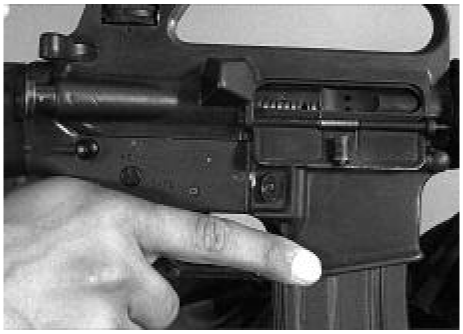

Figure 16

(3) Search the area and assess the situation/threat by moving the head, eyes, and rifle left and right to cover the immediate area. The muzzle moves with the head and eyes in one fluid motion while searching. Keep both eyes open to increase the field of view.

(4) Once a Marine determines the area is clear of enemy threat, he places the rifle on safe.

REFERENCE(S):

MCRP 3-01A, *Rifle Marksmanship*
SLR .24, *Detailed Instructor Guides*

TASK: **MCCS.11.08 (CORE) ENGAGE TARGETS WITH THE M16A2 SERVICE RIFLE WHILE WEARING THE FIELD PROTECTIVE MASK**

CONDITION: **GIVEN AN M16A2 SERVICE RIFLE, 782-GEAR, FIELD PROTECTIVE MASK, AMMUNITION, AND MAN-SIZED TARGETS.**

STANDARD: **TO ACHIEVE SIX HITS OUT OF 12 ROUNDS FIRED PER THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given an M16A2 service rifle, 782-gear, field protective mask, ammunition, and man-sized targets.

Standard: To achieve 6 hits out of 12 rounds fired per the references.

PERFORMANCE STEPS:

1. *Handle the weapon safely.*

a. Apply the following safety rules at all times to ensure that only the intended target is engaged.

SAFETY RULES	
Rule 1	Treat every weapon as if it were loaded.
Rule 2	Never point a weapon at anything you do not intend to shoot.
Rule 3	Keep your finger straight and off the trigger until you are ready to fire.
Rule 4	Keep the weapon on safe until you intend to fire.

b. A weapon's readiness/safety is described by one of four conditions. The steps in the loading and unloading process take the rifle through four specific conditions of readiness for live fire.

CONDITION CODES	
Condition 1	Safety on, magazine inserted, round in chamber, bolt forward, ejection port cover closed.
Condition 2	Not applicable to the M16A2 rifle.
Condition 3	Safety on, magazine inserted, chamber empty, bolt forward, ejection port cover closed.
Condition 4	Safety on, magazine removed, chamber empty, bolt forward, ejection port cover closed.

c. Weapon commands dictate the specific conditions required to load and unload the rifle.

COMMANDS	
Load	Takes the weapon from condition 4 to condition 3.
Make Ready	Takes the weapon from condition 3 to condition 1.
Fire	Specifies when a Marine may engage targets.
Cease Fire	Specifies when a Marine must stop target engagement.
Unload	Takes the weapon from any condition to condition 4.
Unload Show Clear	Specifies when a second individual must check the weapon to verify that no ammunition is present before the rifle is placed in condition 4..

2. *Don and clear the field protective mask and sound the alarm to warn others.*

a. Stop breathing, don, clear, and check the mask.

b. Upon receiving the command or detecting a contamination presence, stop breathing; close your mouth and eyes.

CAUTION: This does not mean to take one last breath.

c. Place the rifle between your legs.

d. Remove the headgear and place it on the weapon.

NOTE: Remove your glasses if you are wearing them.

CAUTION: Do not wear contact lenses with any field protective mask. Wearing contact lenses with the optical inserts will over correct your vision.

e. Remove the mask from its carrier as shown in figure 1.

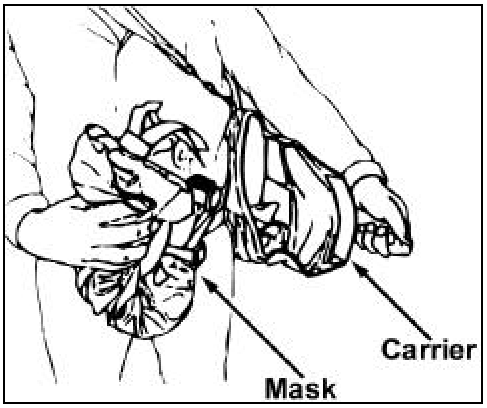

Figure 1

(1) Open the carrier with your left hand and hold it open.

(2) Use your right hand to grasp the facepiece and remove it from the carrier. Allow the hood to hang down in front of the mask.

f. Put your chin into the chin pocket of the facepiece. The mask is stored with the head harness pulled over the front of the mask as shown in figure 2.

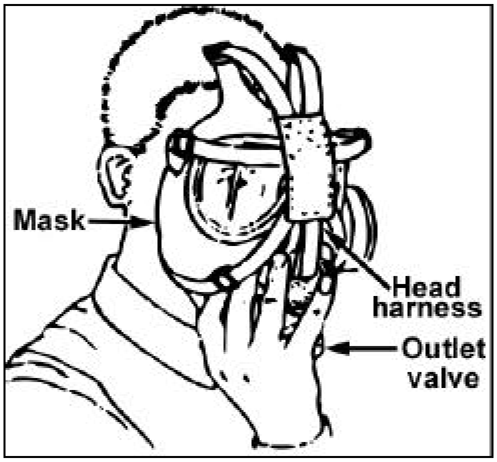

Figure 2

g. Clear the field protective mask.

(1) Cover the outlet valve with the palm of one hand as shown in figure 3.

(2) Exhale sharply so the air escapes around the edges of the facepiece.

(3) Cover the air inlet port of the canister with the palm of your free hand and then breathe in. The facepiece should collapse against your face and remain there while holding your breath.

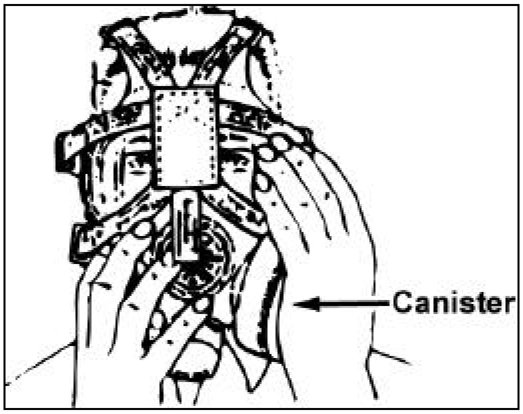

Figure 3

If…	**Then…**
Facepiece collapses	Consider it airtight.
Facepiece does not collapse	Check for hair, clothing, or other interference between the facepiece and your face. Repeat steps to clear the mask until there is an airtight seal.

h. Adjust the M40 mask.

(1) Grasp the tab as shown in figure 4 and pull the head harness over your head.

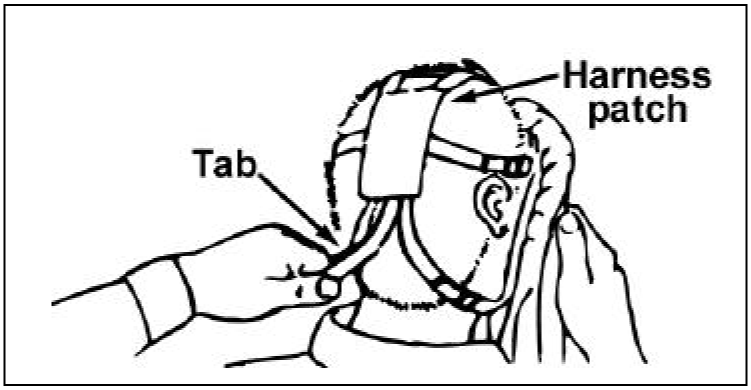

Figure 4

(2) Make sure the square harness patch is centered comfortably in the rear of your head.

CAUTION: Make sure the unit NBC personnel properly fit your mask. The temple and forehead straps are adjusted during fitting.

(3) Maintain the seal while holding the facepiece to your face with one hand.

(4) Use your free hand to tighten the cheek straps one at a time as shown in figure 5.

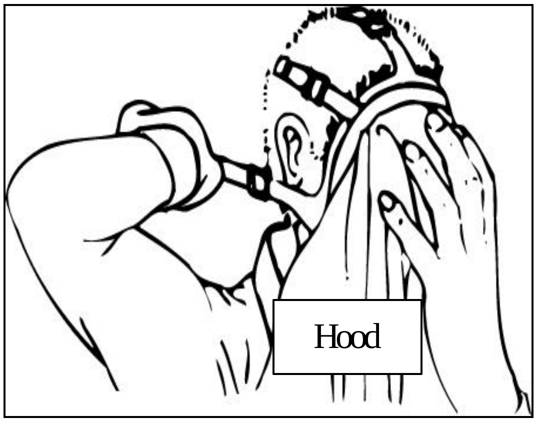

Figure 5

(5) Make sure that straps lie flat against your head.

i. Should a leak or an improper seal be suspected:

(1) Clear the field protective mask as outlined in performance step 2.f.

(2) Recheck facepiece for leaks.

WARNING: Check the mask for leaks each time you put it on. Air should circulate over the eye lenses inside the mask. If air flows in from around the edges of the mask, you may have a leak.

(3) Run your finger around the edges of the mask to check for bulging material.

(4) When time permits, have another Marine check the facepiece.

j. Resume breathing normally.

CAUTION: The mask must be donned, cleared, and sealed within 9 seconds. An additional 6 seconds is given to put the hood in place.

k. Sound the alarm to warn others.

l. Give vocal alarm for a chemical/biological attack.

(1) The universal command to put the mask on is **GAS-GAS-GAS**.

(2) The word gas is repeated three times.

m. Give visual alarm for a chemical/biological attack as shown in figure 6.

(1) The arms are extended straight out to the side and hands made into a fist.

(2) As the word **GAS** is said, bend the arms at the elbows so the fists are placed to the ears, and repeat three times.

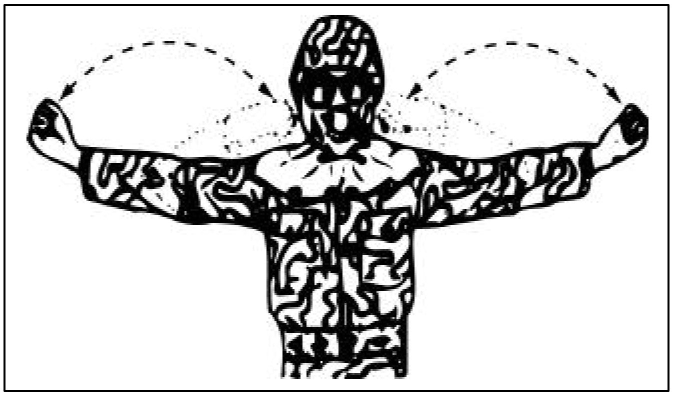

Figure 6

n. Give the percussion alarm for a chemical/biological attack.

   (1) Metal on metal. Metal triangles are used to give the NBC alarm by striking them repeatedly.

   (2) Sirens, intermittent horns, biological/chemical alarm systems, or other devices as outlined by the unit's SOP.

   NOTE: The following performance steps are executed the same with or without the gas mask.

3. *Place the rifle in condition 3.*

a. Ensure the weapon is in condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine.

f. Fasten the magazine pouch.

g. Close the ejection port cover.

4. *Place the rifle in condition 1.*

a. Make sure the weapon is in condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Make sure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine.

f. Pull the charging handle to the rear and release. There are two methods:

   (1) Grip the pistol grip firmly with the right hand and pull the charging handle with the left hand to its rearmost position and release.

   (2) Grip the handguards firmly with the left hand and pull the charging handle with the right hand to its rearmost position and release.

g. To ensure ammunition has been chambered, conduct a chamber check if the tactical situation permits.

h. Check the sights to ensure proper BZO setting, correct rear sight aperture, etc.

i. Close the ejection port cover, if time and situation permit.

5. *Apply the eye, muzzle, target technique.*

a. Apply the fundamentals of marksmanship and fire a 3-shot group at the sustained rate of fire (12 to 15 rounds per minute). The fundamentals of marksmanship are aiming, breath control, and trigger control. These fundamentals provide the foundation for all marksmanship principles and skills. For rifle fire to be effective, it must be accurate. A rifleman who merely sprays shots in the vicinity of the enemy produces little effect. The fundamentals of marksmanship, when applied correctly, form the basis for delivering accurate fire on enemy targets. These skills must be developed so they are applied instinctively. During combat, the fundamentals of marksmanship must be applied in a limited time frame, which corresponds to the size and the distance of the target. At longer ranges, the target is smaller and a more precise shot is required to accurately engage the target. The fundamentals are more critical to accurate engagement as the range to the target increases. To be accurate at longer ranges, the Marine must take the time to slow down and accurately apply the fundamentals. At shorter ranges, the enemy must be engaged quickly before it engages the Marine. As the size of the target increases and the distance to the target decreases, the fundamentals, while still necessary, become less critical to accuracy. In combat, a Marine must apply proper aiming, breathing, and trigger control techniques without hesitation.

(1) Sight Alignment. Sight alignment is the relationship between the front sight post and rear sight aperture and the aiming eye. This relationship is the most critical to aiming and must remain consistent from shot to shot. To achieve correct sight alignment, center the tip of the front sight post vertically and horizontally in the rear sight aperture as shown in figure 7. Imagine a horizontal line drawn through the center of the rear sight aperture. The top of the front sight post will appear to touch this line. Now, envision a vertical line drawn through the center of the rear sight aperture. The line will appear to bisect the front sight post.

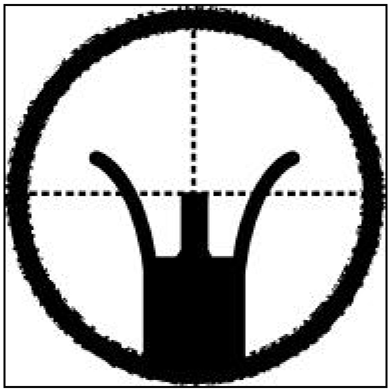

Figure 7

(2) Sight Picture. Sight picture is the placement of the tip of the front sight post in relation to the target while maintaining sight alignment. Improper sight placement on the target will cause the bullet to impact the target incorrectly. To achieve correct sight picture, place the tip of the front sight post at the center of the target while maintaining sight alignment as shown in figure 8. Center of mass is the correct aiming point so that point of aim/point of impact is achieved.

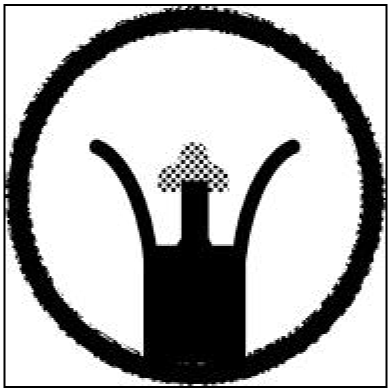

Figure 8

(3) The sighting system for the M16A2 rifle is designed to work using a center mass sight picture.

(4) In combat, targets are often indistinct and oddly shaped. The center mass hold provides a consistent aiming point as shown in figure 9.

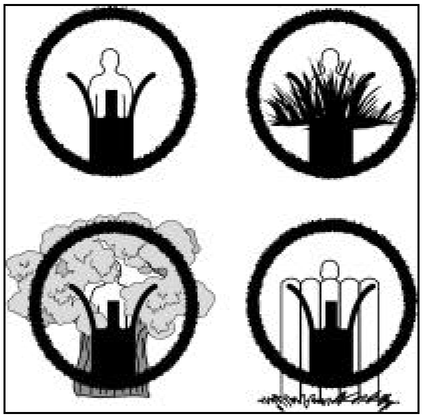

Figure 9

6. *Present the rifle to the target while assuming a firing position.*

a. In a combat environment, targets may present themselves with little or no warning. To maintain an advantage, the Marine carries his weapon in a position appropriate to the threat level that permits the rifle to be easily carried, but also presented as quickly as possible. A carry is also established based on the situation such as moving in a close quarter environment, moving over or under objects, etc.

b. Presenting the Rifle from the Tactical Carry. At the tactical carry, no immediate threat is present. This carry permits the rifle to be easily carried for long periods of time, but it does not permit the quickest presentation to a target. If the situation changes and a target presents itself, a Marine performs the following steps to present the rifle from the tactical carry once a target appears:

(1) Extend the rifle toward the target, keeping the muzzle slightly up so the buttstock clears all personal equipment. Continue to look at the target.

(2) Simultaneously, place the rifle in condition 1. There are two methods of placing the rifle in condition 1 if it is in condition 3:

(a) Grip the pistol grip firmly with the right hand. Pull the charging handle with the left hand to its rearmost position and release as shown in figure 10.

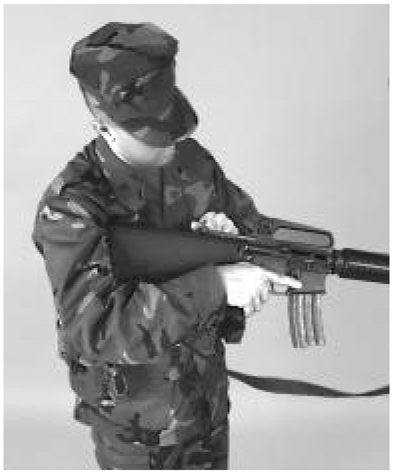

Figure 10

(b) Grip the handguards firmly with the left hand. Pull the charging handle with the right hand to its rearmost position and release as shown in figure 11.

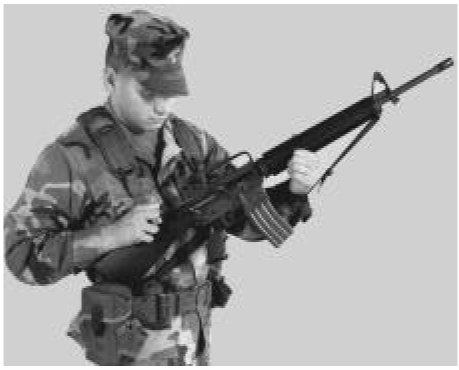

Figure 11

(3) As the rifle is being presented, take the rifle off safe and place the trigger finger on the trigger as shown in figures 12, 13, and 14.

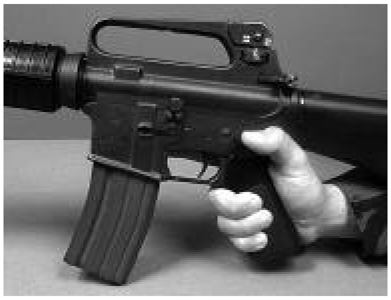

Figure 12

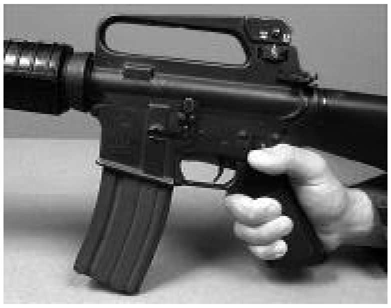

Figure 13

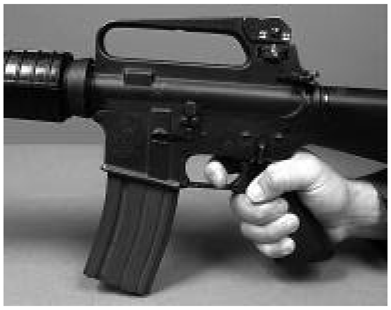

Figure 14

(4) Level the rifle while pulling it firmly into the pocket of the shoulder to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(5) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment and place the tip of the post center mass on the target to obtain sight picture.

c. Presenting the Rifle from the Alert and from the Ready. At the alert, enemy contact is likely. The alert is also used for moving in urban or other restrictive terrain where targets present themselves in close quarters. At the ready, enemy contact is imminent. To present the rifle from the alert, a Marine performs the following steps once a target appears:

(1) While looking at the target, bring the muzzle up by raising the left hand, allowing the rifle butt to pivot in the shoulder. At the same time, pull the rifle firmly into the pocket of the shoulder.

(2) As the rifle is being presented, take the rifle off safe and place the trigger finger on the trigger (figures 12, 13, and 14).

(3) As the stock makes contact with the cheek, level the rifle to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(4) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment and place the tip of the post center mass on the target to obtain sight picture.

d. Presenting the Rifle from the Strong Side Sling Arms Transport. To present the rifle from strong side sling arms, a Marine performs the following steps once a target appears:

(1) While looking at the target, lean forward slightly to facilitate removal of the rifle from the shoulder.

(2) Reach under the right arm with the left hand between the sling and the body and grasp the handguards as shown in figure 15. At the same time, pull down on the sling and raise the right elbow out and parallel to the deck.

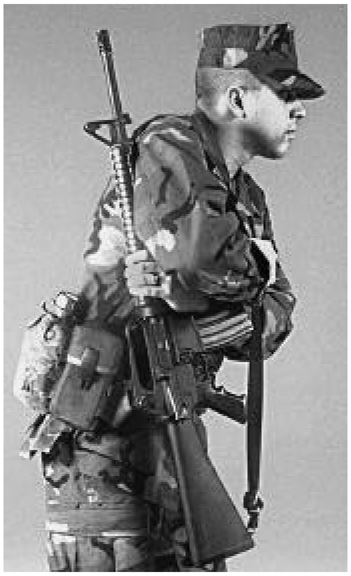

Figure 15

(3) Roll the right shoulder forward and release the sling from the right hand once the handguards have cleared the elbow. At the same time, pull the rifle forward off the shoulder with the left hand.

(4) Continue pulling the rifle forward with the left hand while rotating the rifle parallel to the deck. When the right arm is free of the sling and the rifle clears all personal gear, grasp the charging handle with the right hand as shown in figure 16 and pull it to its rearmost position and release.

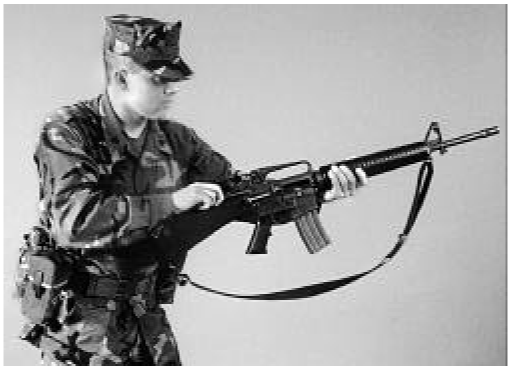

Figure 16

(5) Establish a firing grip with the right hand while keeping the trigger finger straight along the receiver.

(6) Take the rifle off safe and place the trigger finger on the trigger as shown in figures 12, 13, and 14.

(7) Level the rifle while pulling it firmly into the pocket of the shoulder to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(8) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment and place the tip of the post center mass on the target to obtain sight picture.

e. Presenting the Rifle from the Weak Side Sling Arms Transport. The hasty sling should be maintained while presenting the rifle from this transport. To present the rifle from weak side sling arms, a Marine performs the following steps once a target appears:

(1) While looking at the target, lean forward slightly to facilitate removal of the rifle from the shoulder.

(2) Grasp the sling with the right hand to prevent the rifle from falling off the shoulder.

(3) Grasp the handguards with the left hand with the index finger pointing toward the muzzle as shown in figure 17.

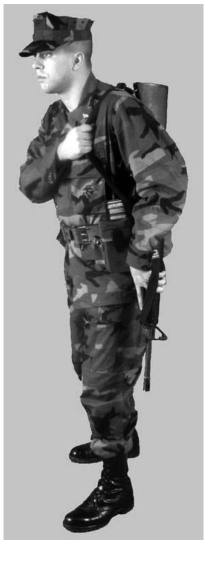

Figure 17

(4) Rotate the rifle counterclockwise until the magazine rests on the left forearm while extending the muzzle toward the target.

(5) Continue extending the rifle toward the target to ensure the rifle clears all personal gear**.**

(6) Grasp the charging handle with the right hand and pull it to its rearmost position and release (figure 18).

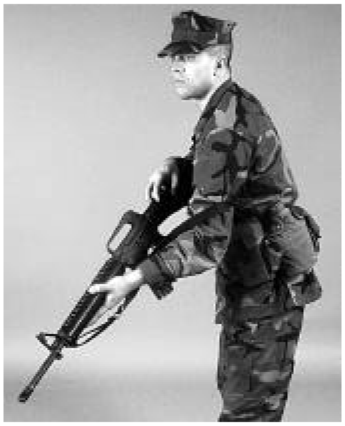

Figure 18

(7) Establish a firing grip with the right hand while keeping the trigger finger straight along the receiver.

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7. *Engage the target.*

a. A Marine must maintain the ability to react instinctively in a combat environment—day or night. He must possess a combat mindset that eliminates any hesitation, fear, or uncertainty of action. Such approach allows the Marine to engage the enemy rapidly and to focus on the actions required to fire well-aimed shots. A Marine must remember that speed alone does not equate to effective target engagement. He should fire only as fast as he can fire accurately. He should never exceed his physical capability to engage a target effectively. To be effective in combat, a Marine must train to perfect the physical skills of target engagement (such as presenting the weapon and assuming a shooting position) until they become instinctive. In addition, a Marine must employ effective engagement techniques that enable the acquisition and engagement of a variety of targets in diverse combat conditions.

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8. Assume the "ready."

a. Ready. A Marine carries the rifle at the ready if contact with the enemy is imminent. The ready allows immediate target engagement, but it is very tiring to maintain over a long period of time. A Marine performs the following steps to assume the ready:

(1) Place the left hand on the handguards, the right hand around the pistol grip, the trigger finger straight along the receiver as shown in figure 19, and the right thumb on top of the selector lever as shown in figure 20.

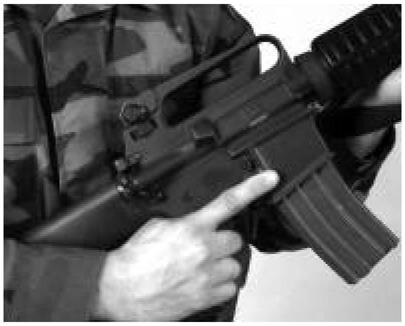


Figure 19

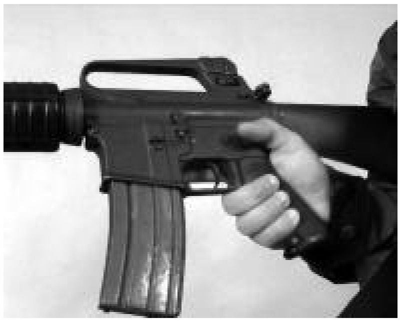


Figure 20

(2) Place the buttstock in the shoulder.

(3) Point the muzzle in the direction of the enemy.

(4) Lower the sights just below eye level so that a clear field of view is maintained to identify a target as shown in figure 21.

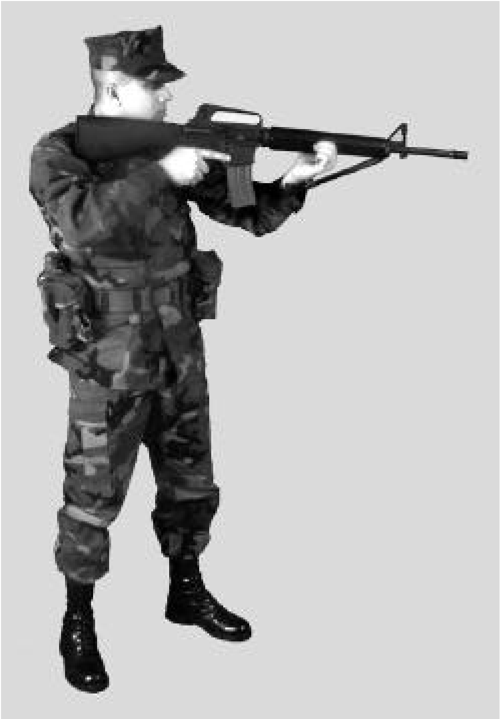


Figure 21

9. Search and assess the situation.

a. After a Marine engages a target, he must immediately search the area and assess the results of his engagement. Searching and assessing enables the Marine to avoid tunnel vision that can restrict the focus so that an indication of other targets is not overlooked.

b. The Marine searches the area for additional targets or for cover. The Marine assesses the situation to determine if he needs to re-engage a target, engage a new target, take cover, assume a more stable position, cease engagement, etc.

c. The Marine moves only as fast as he is capable of delivering well-aimed shots on target. The speed of engagement should not exceed physical abilities. To search and assess, a Marine performs the following steps:

(1) Keeping the buttstock in the shoulder, lower the muzzle of the rifle slighty to look over the sights.

(2) Place the trigger finger straight along the receiver as shown in figure 22.

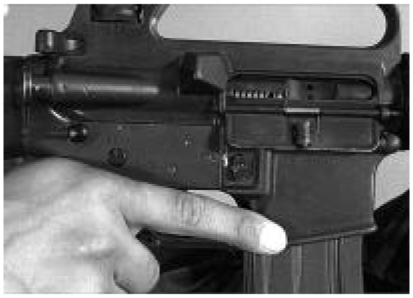


Figure 22

(3) Search the area and assess the situation/threat by moving the head, eyes, and rifle left and right to cover the immediate area. The muzzle moves with the head and eyes in one fluid motion while searching. Keep both eyes open to increase the field of view.

(4) Once a Marine determines the area is clear of enemy threat, he places the rifle on safe.

REFERENCE(S):

MCRP 3-01A, *Rifle Marksmanship*
SLR .24, *Detailed Instructor Guides*
MCWP 3-37.2, *Nuclear, Biological, and Chemical Protection*
TM 3-4240-399-10, *Operator's Manual for Chemical-Biological Mask M40*

TASK: **MCCS.11.09 (CORE) ENGAGE MULTIPLE TARGETS WITH THE M16A2 SERVICE RIFLE**

CONDITION: **GIVEN AN M16A2 SERVICE RIFLE, 782-GEAR, AMMUNITION, AND MAN-SIZED TARGETS.**

STANDARD: **TO ACHIEVE 18 HITS OUT OF 32 ROUNDS FIRED PER THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given an M16A2 service rifle, 782-gear, ammunition, and man-sized targets.

Standard: To achieve 18 hits out of 32 rounds fired per the references.

PERFORMANCE STEPS:

1. *Handle the weapon safely*.

a. Apply the following safety rules at all times to ensure that only the intended target is engaged.

SAFETY RULES	
Rule 1	Treat every weapon as if it were loaded.
Rule 2	Never point a weapon at anything you do not intend to shoot.
Rule 3	Keep your finger straight and off the trigger until you are ready to fire.
Rule 4	Keep the weapon on safe until you intend to fire.

b. A weapon's readiness/safety is described by one of four conditions. The steps in the loading and unloading process take the rifle through four specific conditions of readiness for live fire.

CONDITION CODES	
Condition 1	Safety on, magazine inserted, round in chamber, bolt forward, ejection port cover closed.
Condition 2	Not applicable to the M16A2 rifle.
Condition 3	Safety on, magazine inserted, chamber empty, bolt forward, ejection port cover closed.
Condition 4	Safety on, magazine removed, chamber empty, bolt forward, ejection port cover closed.

c. Weapon commands dictate the specific conditions required to load and unload the rifle.

COMMANDS	
Load	Takes the weapon from condition 4 to condition 3.
Make Ready	Takes the weapon from condition 3 to condition 1.
Fire	Specifies when a Marine may engage targets.
Cease Fire	Specifies when a Marine must stop target engagement.
Unload	Takes the weapon from any condition to condition 4.
Unload Show Clear	Specifies when a second individual must check the weapon to verify that no ammunition is present before the rifle is placed in condition 4.

2. *Place the rifle in condition 3.*

a. Ensure the weapon is in condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine.

f. Fasten the magazine pouch.

g. Close the ejection port cover.

3. *Place the rifle in condition 1.*

a. Ensure the weapon is in condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine.

f. Pull the charging handle to the rear and release. There are two methods:

   (1) Grip the pistol grip firmly with the right hand and pull the charging handle with the left hand to its rearmost position and release.

   (2) Grip the handguards firmly with the left hand and pull the charging handle with the right hand to its rearmost position and release.

g. To ensure ammunition has been chambered, conduct a chamber check if the tactical situation permits.

h. Check the sights to ensure proper BZO setting, correct rear sight aperture, etc.

i. Close the ejection port cover, if time and situation permit.

4. *Apply the eye, muzzle, target technique.*

a. Apply the fundamentals of marksmanship. The fundamentals of marksmanship are aiming, breath control, and trigger control. These fundamentals provide the foundation for all marksmanship principles and skills. For rifle fire to be effective, it must be accurate. A rifleman who merely sprays shots in the vicinity of the enemy produces little effect. The fundamentals of marksmanship, when applied correctly, form the basis for delivering accurate fire on enemy targets. These skills must be developed so that they are applied instinctively. During combat, the fundamentals of marksmanship must be applied in a limited time frame, which corresponds to the size and the distance of the target. At longer ranges, the target is smaller and a more precise shot is required to accurately engage the target. The fundamentals are more critical to accurate engagement as the range to the target increases. To be accurate at longer ranges, the Marine must take the time to slow down and accurately apply the fundamentals. At shorter ranges, the enemy must be engaged quickly before it engages the Marine. As the size of the target increases and the distance to the target decreases, the fundamentals while still necessary, become less critical to accuracy. In combat, a Marine must apply proper aiming, breathing, and trigger control techniques without hesitation.

   (1) Sight Alignment**.** Sight alignment is the relationship between the front sight post and rear sight aperture and the aiming eye. This relationship is the most critical to aiming and must remain consistent from shot to shot. To achieve correct sight alignment as shown in figure 1, center the tip of the front sight post vertically and horizontally in the rear sight aperture. Imagine a horizontal line drawn through the center of the rear sight aperture. The top of the front sight post will appear to touch this line. Now, envision a vertical line drawn through the center of the rear sight aperture. The line will appear to bisect the front sight post.

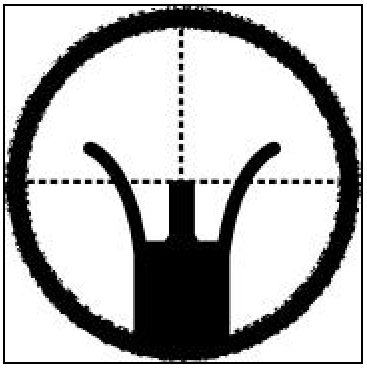


Figure 1

(2) Sight Picture. Sight picture is the placement of the tip of the front sight post in relation to the target while maintaining sight alignment. Improper sight placement on the target will cause the bullet to impact the target incorrectly. To achieve correct sight picture, place the tip of the front sight post at the center of the target while maintaining sight alignment as shown in figure 2. Center of mass is the correct aiming point so that point of aim/point of impact is achieved.

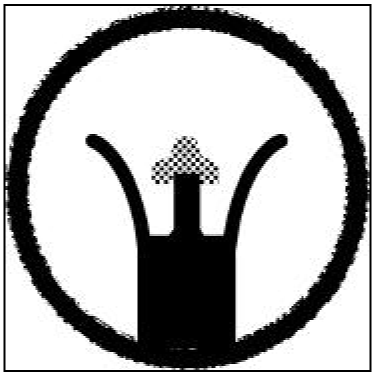


Figure 2

(3) The sighting system for the M16A2 rifle is designed to work using a center of mass sight picture.

(4) In combat, targets are often indistinct and oddly shaped. The center of mass hold provides a consistent aiming point as shown in figure 3.

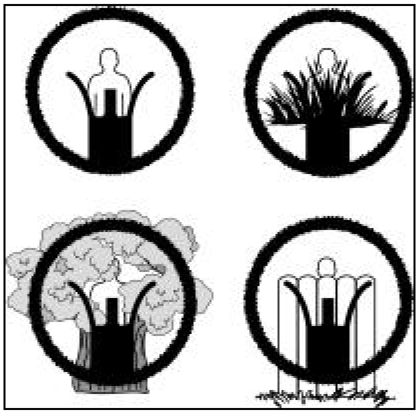


Figure 3

5. *Present the rifle to the target while assuming a firing position.*

a. In a combat environment, targets may present themselves with little or no warning. To maintain an advantage, the Marine carries his weapon in a position appropriate to the threat level that permits the rifle to be easily carried, but also presented as quickly as possible. A carry is also established based on the situation such as moving in a close quarter environment, moving over or under objects, etc.

b. Presenting the Rifle from the Tactical Carry. At the tactical carry, no immediate threat is present. This carry permits the rifle to be easily carried for long periods of time, but it does not permit the quickest presentation to a target. If the situation changes and a target presents itself, a Marine performs the following steps to present the rifle from the tactical carry once a target appears:

(1) Extend the rifle toward the target, keeping the muzzle slightly up so the buttstock clears all personal equipment. Continue to look at the target.

(2) Simultaneously, place the rifle in condition 1. There are two methods of placing the rifle in condition 1 if it is in condition 3:

(3) Grip the pistol grip firmly with the right hand. Pull the charging handle with the left hand to its rearmost position and release as shown in figure 4.

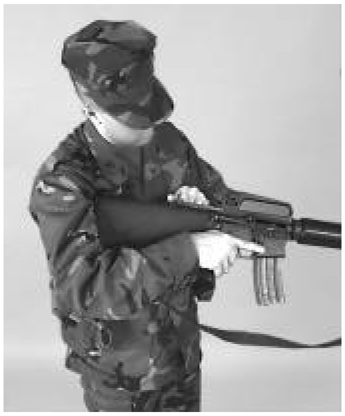


Figure 4

(4) Grip the handguards firmly with the left hand. Pull the charging handle with the right hand to its rearmost position and release as shown in figure 5.

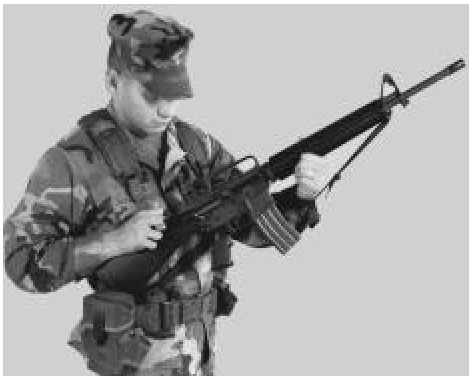


Figure 5

(5) As the rifle is being presented, take the rifle off safe and place the trigger finger on the trigger as shown in figures 6, 7, and 8.

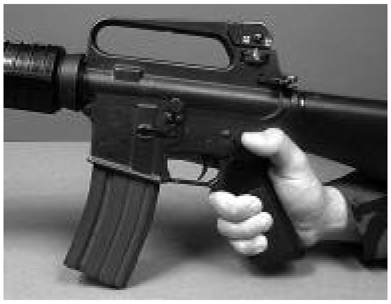


Figure 6

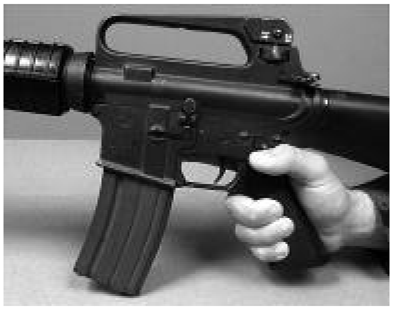


Figure 7

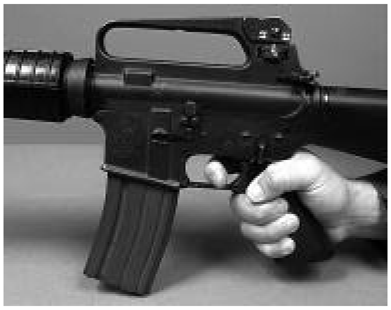


Figure 8

(6) Level the rifle while pulling it firmly into the pocket of the shoulder to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(7) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment and place the tip of the post center of mass on the target to obtain sight picture.

c. Presenting the Rifle from the Alert and from the Ready. At the alert, enemy contact is likely. The alert is also used for moving in urban or other restrictive terrain where targets present themselves in close quarters. At the ready, enemy contact is imminent. To present the rifle from the alert, a Marine performs the following steps once a target appears:

(1) While looking at the target, bring the muzzle up by raising the left hand, allowing the rifle butt to pivot in the shoulder. At the same time, pull the rifle firmly into the pocket of the shoulder.

(2) As the rifle is being presented, take the rifle off safe and place the trigger finger on the trigger as shown in figures 6, 7, and 8.

(3) As the stock makes contact with the cheek, level the rifle to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(4) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment and place the tip of the post center of mass on the target to obtain sight picture.

d. Presenting the Rifle from the Strong Side Sling Arms Transport. To present the rifle from strong side sling arms, a Marine performs the following steps once a target appears:

(1) While looking at the target, lean forward slightly to facilitate removal of the rifle from the shoulder.

(2) Reach under the right arm with the left hand between the sling and the body and grasp the handguards as shown in figure 9. At the same time, pull down on the sling and raise the right elbow out and parallel to the deck.

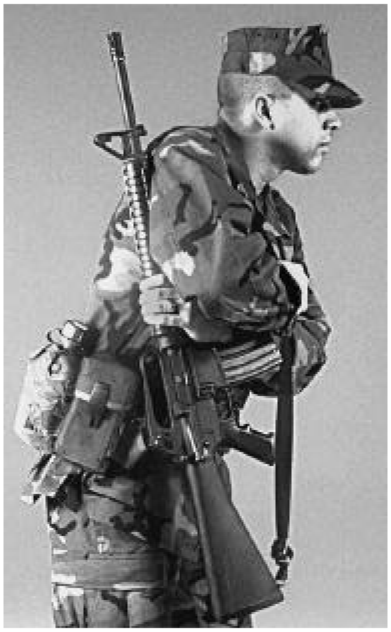


Figure 9

(3) Roll the right shoulder forward and release the sling from the right hand once the handguards have cleared the elbow. At the same time, pull the rifle forward off the shoulder with the left hand.

(4) Continue pulling the rifle forward with the left hand while rotating the rifle parallel to the deck. When the right arm is free of the sling and the rifle clears all personal gear, grasp the charging handle with the right hand as shown in figure 10 and pull it to its rearmost position and release.

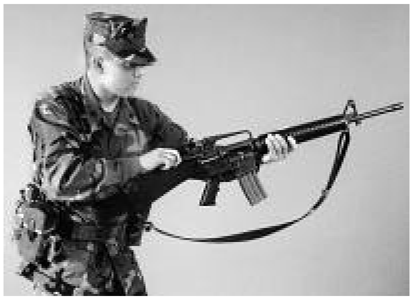


Figure 10

(5) Establish a firing grip with the right hand while keeping the trigger finger straight along the receiver.

(6) Take the rifle off safe and place the trigger finger on the trigger as shown in figures 6, 7, and 8.

(7) Level the rifle while pulling it firmly into the pocket of the shoulder to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(8) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment and place the tip of the post center of mass on the target to obtain sight picture.

e. Presenting the Rifle from the Weak Side Sling Arms Transport. The hasty sling should be maintained while presenting the rifle from this transport. To present the rifle from weak side sling arms, a Marine performs the following steps once a target appears:

(1) While looking at the target, lean forward slightly to facilitate removal of the rifle from the shoulder.

(2) Grasp the sling with the right hand to prevent the rifle from falling off the shoulder.

(3) Grasp the handguards with the left hand with the index finger pointing toward the muzzle as shown in figure 11.

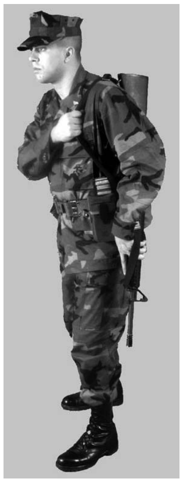


Figure 11

(4) Rotate the rifle counterclockwise until the magazine rests on the left forearm while extending the muzzle toward the target.

(5) Continue extending the rifle toward the target to ensure the rifle clears all personal gear.

(6) Grasp the charging handle with the right hand and pull it to its rearmost position and release as shown in figure 12.

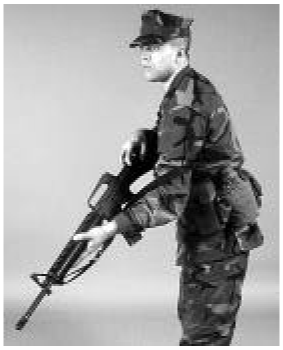


Figure 12

(7) Establish a firing grip with the right hand while keeping the trigger finger straight along the receiver.

(8) Take the rifle off safe and place the trigger finger on the trigger as shown in figures 6, 7, and 8.

(9) Level the rifle while pulling it firmly into the pocket of the shoulder to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(10) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment and place the tip of the post center of mass on the target to obtain sight picture.

6. *Prioritize targets.*

a. When engaging multiple targets, a Marine must prioritize targets and carefully plan his engagements to ensure successful target engagement. Mental preparedness and the ability to make split-second decisions are the key to successful engagement of multiple targets. The proper mindset allows a Marine to react instinctively and to control the pace of the battle rather than just reacting to the threat. After the first target is engaged, a Marine must immediately engage the next target and continue to engage targets until they are eliminated. While engaging multiple targets, a Marine must be aware of his surroundings and not fixate on just one target. He must rapidly prioritize the targets, establish an engagement sequence, and engage the targets. In addition, a Marine must maintain constant awareness and continuously search the terrain for additional targets.

b. Prioritizing Targets. The combat situation will usually dictate the order of multiple target engagement. Target priority is based on factors such as proximity, threat, and opportunity; no two situations will be the same. The principal method is to determine the level of threat for each target so all may be engaged in succession from the most threatening to the least threatening. The target that poses the greatest threat (e.g., closest, greatest firepower) should be engaged first. Prioritizing targets is an ongoing process. Changes in threat level, proximity, or the target itself may cause a Marine to revise his priorities. Therefore, a Marine must remain alert to changes in a target's threat level and proximity and other target opportunities as the battle progresses.

c. Technique of Engagement. To engage multiple targets, the Marine performs the following steps:

(1) Engage the first target with two rounds.

(2) The recoil of the rifle can be used to direct the recovery of the weapon on to the next target. As the weapon is coming down in its recovery, the Marine physically brings the sights onto the desired target. Pressure is maintained on the trigger throughout recovery and trigger control is applied at a rate consistent with the Marine’s ability to establish sight picture on the desired target.

(3) When possible, such as when all targets are of equal threat, the Marine should engage targets in a direction that maximizes support and control of the weapon.

(4) The preceding steps are repeated until are targets are engaged.

d. Firing Position. The selection and effective use of a firing position is critical to the successful engagement of multiple targets. A Marine should make a quick observation of the terrain and select a firing position that provides good cover and concealment, as well as the flexibility to engage multiple targets. If enemy targets are widely dispersed, the selected position must provide the Marine with flexibility of movement. The more restrictive the firing position, the longer it will take a Marine to eliminate multiple targets.

(1) Prone. The prone position limits left and right lateral movement and is, therefore, not recommended for engaging short-range targets. This adjustment occurs because the elbows are firmly placed on the ground and they restrict upper body movement.

(2) Sitting. Like the prone position, the sitting position allows limited lateral movement. This makes engagement of widely-dispersed multiple targets difficult. To ease engagement, the forward arm can be moved by pivoting on the elbow, but this movement disturbs the stability of the position.

(3) Kneeling. The kneeling position provides a wider, lateral range of motion since only one elbow is used for support. A Marine moves from one target to another by rotating at the waist to move the forward arm in the direction of the target, either right or left.

(4) Standing. The standing position allows maximum lateral movement. Multiple targets are engaged by rotating the upper body to a position where the sights can be aligned on the desired target. If severe or radical adjustments are required to engage widely dispersed targets, a Marine moves his feet to establish a new position rather than give up maximum stability of the rifle. This avoids poorly placed shots that can result from an unstable position.

7. *Engage the target.*

a. A Marine must maintain the ability to react instinctively in a combat environment—day or night. He must possess a combat mindset that eliminates any hesitation, fear, or uncertainty of action. Such an approach allows him to engage the enemy rapidly and focus on the actions required to fire well-aimed shots. A Marine must remember that speed alone does not equate to effective target engagement. He should fire only as fast as he can fire accurately. He should never exceed his physical capability to engage a target effectively. To be effective in combat, a Marine must train to perfect the physical skills of target engagement (such as presenting the weapon and assuming a shooting position) until they become instinctive. In addition, a Marine must employ effective engagement techniques that enable the acquisition and engagement of a variety of targets in diverse combat conditions.

b. To be proficient, a Marine rifleman must be able to detect targets, determine the range to targets, and accurately engage the targets. There are many variables affecting a Marine's ability to detect and determine the range to combat targets. An enemy rarely fails to use some type of cover or concealment when he is in the vicinity of Marine units. Enemy targets on the battlefield may be single or multiple, stationary or moving, or completely hidden from view. Success in locating an enemy target will depend upon the observer's position, his skill in searching an area, and his ability to recognize target indicators.

8. *Assume the "ready."*

- Ready. A Marine carries the rifle at the ready if contact with the enemy is imminent. The ready allows immediate target engagement, but it is very tiring to maintain over a long period of time. A Marine performs the following steps to assume the Ready:

(1) Place the left hand on the handguards, the right hand around the pistol grip, the trigger finger straight along the receiver as shown in figure 13, and the right thumb on top of the selector lever as shown in figure 14.

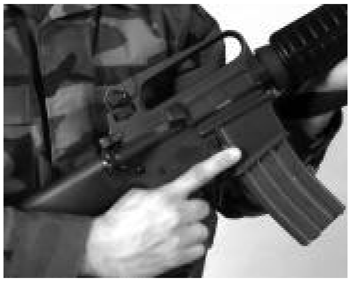


Figure 13

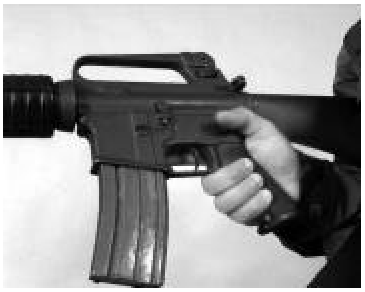


Figure 14

(2) Place the buttstock in the shoulder.

(3) Point the muzzle in the direction of the enemy.

(4) Lower the sights just below eye level so that a clear field of view is maintained to identify a target as shown in figure 15.

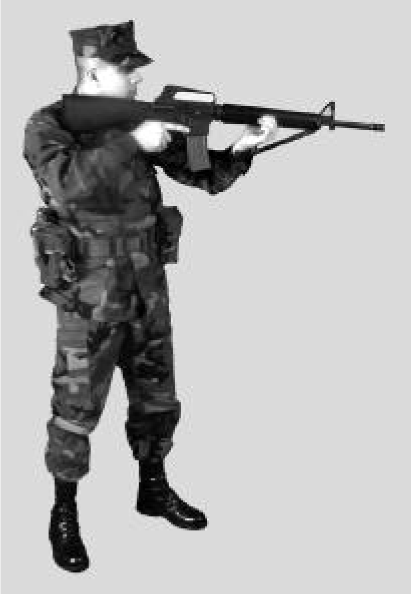


Figure 15

9. Search and assess the situation.

a. After a Marine engages a target, he must immediately search the area and assess the results of his engagement. Searching and assessing enables the Marine to avoid tunnel vision that can restrict the focus so that an indication of other targets is not overlooked.

b. The Marine searches the area for additional targets or for cover. The Marine assesses the situation to determine if he needs to re-engage a target, engage a new target, take cover, assume a more stable position, cease engagement, etc.

c. The Marine moves only as fast as he is capable of delivering well-aimed shots on target. The speed of engagement should not exceed physical abilities. To search and assess, a Marine performs the following steps:

(1) Keeping the buttstock in the shoulder, lower the muzzle of the rifle slightly to look over the sights.

(2) Place the trigger finger straight along the receiver as shown in figure 16.

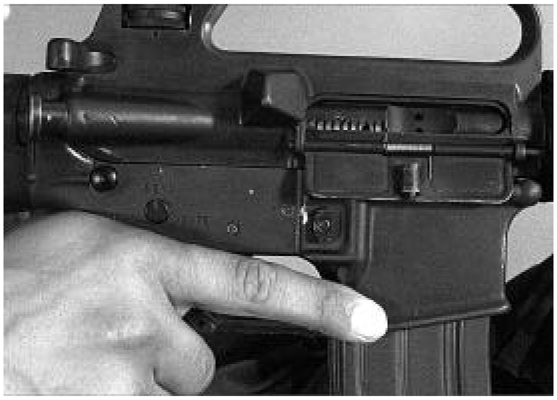


Figure 16

(3) Search the area and assess the situation/threat by moving the head, eyes, and rifle left and right to cover the immediate area. The muzzle moves with the head and eyes in one fluid motion while searching. Keep both eyes open to increase the field of view.

(4) Once a Marine determines the area is clear of enemy threat, he places the rifle on safe.

REFERENCE(S):

MCRP 3-01A, *Rifle Marksmanship*
SLR, *27 Multiple Target Engagement Techniques*

TASK: **MCCS.11.10 (CORE) ENGAGE MOVING TARGETS WITH THE M16A2 SERVICE RIFLE**

CONDITION: **GIVEN AN M16A2 SERVICE RIFLE, 782-GEAR, AMMUNITION, AND MAN SIZED TARGETS AT RANGE WITHIN 200 METERS.**

STANDARD: **TO ACHIEVE 8 HITS OUT OF 12 ROUNDS FIRED PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given an M16A2 service rifle, 782-gear, ammunition, and man-sized targets at range within 200 meters.

Standard: To achieve 8 hits out of 12 rounds fired per the reference.

PERFORMANCE STEPS:

1. *Handle the weapon safely*.

a. Apply the following safety rules at all times to ensure that only the intended target is engaged.

SAFETY RULES	
Rule 1:	Treat every weapon as if it were loaded.
Rule 2:	Never point a weapon at anything you do not intend to shoot.
Rule 3:	Keep your finger straight and off the trigger until you are ready to fire.
Rule 4:	Keep the weapon on safe until you intend to fire.

b. A weapon's readiness/safety is described by one of four conditions. The steps in the loading and unloading process take the rifle through four specific conditions of readiness for live fire.

CONDITION CODES	
Condition 1	Safety on, magazine inserted, round in chamber, bolt forward, ejection port cover closed.
Condition 2	Not applicable to the M16A2 rifle.
Condition 3	Safety on, magazine inserted, chamber empty, bolt forward, ejection port cover closed.
Condition 4	Safety on, magazine removed, chamber empty, bolt forward, ejection port cover closed.

c. Weapon commands dictate the specific conditions required to load and unload the rifle.

COMMANDS	
Load	This command is used to take the weapon from Condition 4 to Condition 3.
Make Ready	This command is used to take the weapon from Condition 3 to Condition 1.
Fire	This command is used to specify when a Marine may engage targets.
Cease Fire	This command is used to specify when a Marine must stop target engagement.
Unload	This command is used to take the weapon from any condition to Condition 4.
Unload Show Clear	This command is used when a second individual must check the weapon to verify that no ammunition is present before the rifle is placed in Condition 4.

2. *Place the rifle in condition 3.*

a. Ensure the weapon is in condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine to make sure it is seated.

f. Fasten the magazine pouch.

g. Close the ejection port cover.

3. Place the rifle in condition 1.

a. Ensure the weapon is in condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine to make sure it is seated.

f. Pull the charging handle to the rear and release. There are two methods of doing this:

   (1) Grip the pistol grip firmly with the right hand and pull the charging handle with the left hand to its rearmost position and release, or

   (2) Grip the handguards firmly with the left hand and pull the charging handle with the right hand to its rearmost position and release.

g. To ensure ammunition has been chambered, conduct a chamber check if the tactical situation permits.

h. Check the sights to ensure proper BZO setting, correct rear sight aperture, etc.

i. Close the ejection port cover, if time and situation permit.

4. Apply the eye, muzzle, target technique.

a. Apply the fundamentals of marksmanship. The fundamentals of marksmanship are aiming, breath control, and trigger control. These fundamentals provide the foundation for all marksmanship principles and skills. For rifle fire to be effective, it must be accurate. A rifleman who merely sprays shots in the vicinity of the enemy produces little effect. The fundamentals of marksmanship, when applied correctly, form the basis for delivering accurate fire on enemy targets. These skills must be developed so that they are applied instinctively. During combat, the fundamentals of marksmanship must be applied in a limited time frame, which corresponds to the size and the distance of the target. At longer ranges, the target is smaller and a more precise shot is required to accurately engage the target. The fundamentals are more critical to accurate engagement as the range to the target increases. To be accurate at longer ranges, the Marine must take the time to slow down and accurately apply the fundamentals. At shorter ranges, the enemy must be engaged quickly before it engages the Marine. As the size of the target increases and the distance to the target decreases, the fundamentals, while still necessary, become less critical to accuracy. In combat a Marine must apply proper aiming, breathing, and trigger control techniques without hesitation.

   (1) **Sight Alignment.** Sight alignment is the relationship between the front sight post and rear sight aperture and the aiming eye. This relationship is the most critical to aiming and must remain consistent from shot to shot. To achieve correct sight alignment (figure 1), center the tip of the front sight post vertically and horizontally in the rear sight aperture. Imagine a horizontal line drawn through the center of the rear sight aperture. The top of the front sight post will appear to touch this line. Imagine a vertical line drawn through the center of the rear sight aperture. The line will appear to bisect the front sight post.

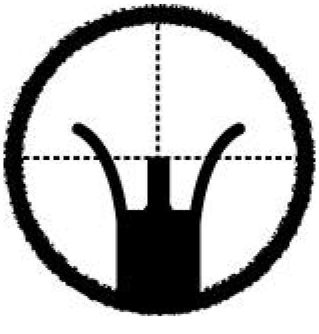


Figure 1

(2) **Sight Picture.** Sight picture is the placement of the tip of the front sight post in relation to the target while maintaining sight alignment. Correct sight alignment but improper sight placement on the target will cause the bullet to impact the target incorrectly. To achieve correct sight picture, place the tip of the front sight post at the center of the target while maintaining sight alignment (figure 2). Center of mass is the correct aiming point so that point of aim/point of impact is achieved.

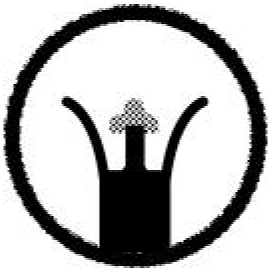


Figure 2

(3) The sighting system for the M16A2 rifle is designed to work using a center of mass sight picture.

(4) In combat, targets are often indistinct and oddly shaped. The center of mass hold provides a consistent aiming point (figure 3).

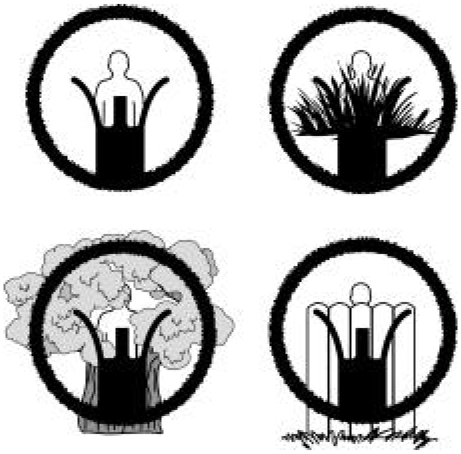


Figure 3

5. *Present the rifle to the target while assuming a firing position.*

a. In a combat environment, targets may present themselves with little or no warning. To maintain an advantage, the Marine carries his weapon in a position appropriate to the threat level that permits the rifle to be easily carried but also presented as quickly as possible. A carry is also established based on the situation such as moving in a close quarter environment, moving over or under objects, etc.

b. Presenting the Rifle From the Tactical Carry. At the tactical carry, no immediate threat is present. This carry permits the rifle to be easily carried for long periods of time, but it does not permit the quickest presentation to a target. If the situation changes and a target presents itself, a Marine performs the following steps to present the rifle from the tactical carry once a target appears:

(1) Extend the rifle toward the target keeping the muzzle slightly up so the buttstock clears all personal equipment. Continue to look at the target.

(2) At the same time, place the rifle in condition 1. There are two methods of placing the rifle in condition 1 if it is in condition 3:

(a) Grip the pistol grip firmly with the right hand. Pull the charging handle with the left hand to its rearmost position and release (figure 4).

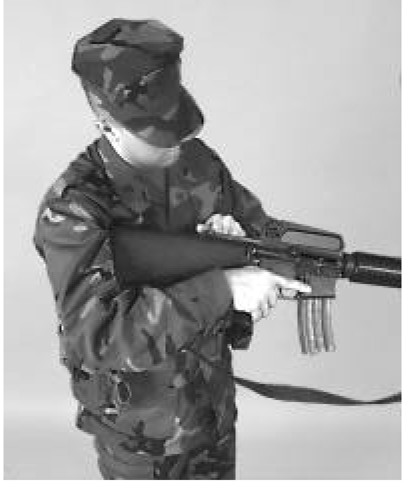


Figure 4

(b) Grip the handguards firmly with the left hand. Pull the charging handle with the right hand to its rearmost position and release (figure 5).

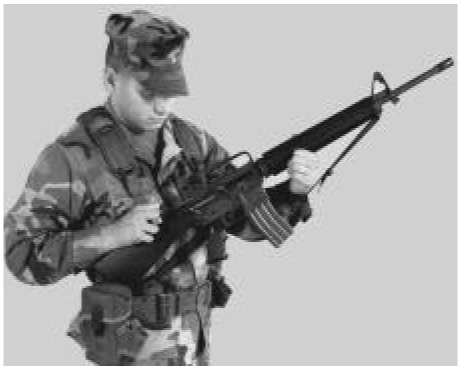


Figure 5

(3) As the rifle is being presented, take the rifle off safe and place the trigger finger on the trigger. (figures 6, 7, and 8)

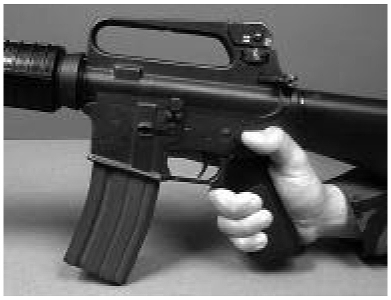


Figure 6

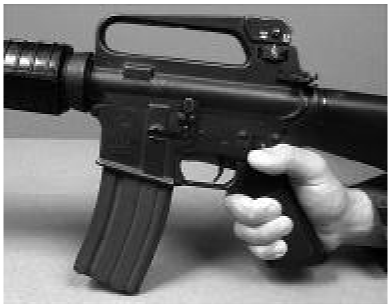


Figure 7

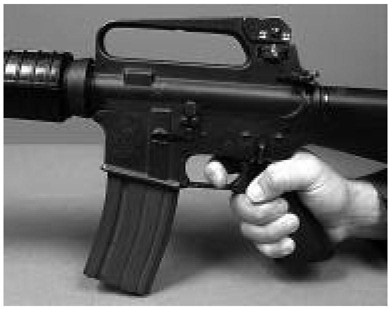


Figure 8

(4) Level the rifle while pulling it firmly into the pocket of the shoulder to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTES: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(5) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment, and place the tip of the post center of mass on the target to obtain sight picture.

c. Presenting the Rifle From the Alert and From the Ready. At the Alert, enemy contact is likely. The Alert is also used for moving in urban or other restrictive terrain where targets present themselves in close quarters. At the Ready, enemy contact is imminent. To present the rifle from the Alert, a Marine performs the following steps once a target appears:

(1) While looking at the target, bring the muzzle up by raising the left hand, allowing the rifle butt to pivot in the shoulder. At the same time, pull the rifle firmly into the pocket of the shoulder.

(2) As the rifle is being presented, take the rifle off safe and place the trigger finger on the trigger (figures 6, 7, and 8).

(3) As the stock makes contact with the cheek, level the rifle to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(4) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment, and place the tip of the post center of mass on the target to obtain sight picture.

d. Presenting the Rifle From the Strong Side Sling Arms Transport. To present the rifle from Strong Side Sling Arms, a Marine performs the following steps once a target appears:

(1) While looking at the target, lean forward slightly to facilitate removal of the rifle from the shoulder.

(2) Reach under the right arm with the left hand between the sling and the body and grasp the handguards (figure 9). At the same time, pull down on the sling and raise the right elbow out and parallel to the deck.

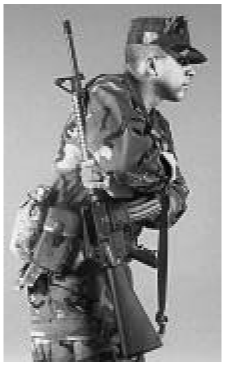


Figure 9

(3) Roll the right shoulder forward and release the sling from the right hand once the handguards have cleared the elbow. At the same time, pull the rifle forward off the shoulder with the left hand.

(4) Continue pulling the rifle forward with the left hand while rotating the rifle parallel to the deck; when the right arm is free of the sling and the rifle clears all personal gear, grasp the charging handle with the right hand (figure 10) and pull it to its rearmost position and release.

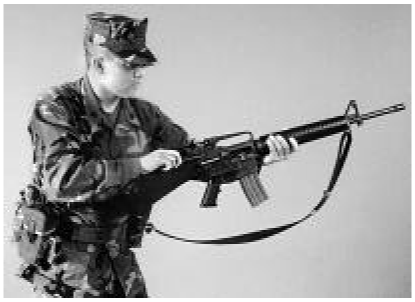


Figure 10

(5) Establish a firing grip with the right hand while keeping the trigger finger straight along the receiver.

(6) Take the rifle off safe and place the trigger finger on the trigger. (figure 6, 7, and 8)

(7) Level the rifle while pulling it firmly into the pocket of the shoulder to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTES: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(8) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment, and place the tip of the post center of mass on the target to obtain sight picture.

e. Presenting the Rifle From the Weak Side Sling Arms Transport. The hasty sling should be maintained while presenting the rifle from this transport. To present the rifle from Weak Side Sling Arms, a Marine performs the following steps once a target appears:

(1) While looking at the target, lean forward slightly to facilitate removal of the rifle from the shoulder.

(2) Grasp the sling with the right hand to prevent the rifle from falling off the shoulder.

(3) Grasp the handguards with the left hand (the index finger points toward the muzzle). (figure 11.)

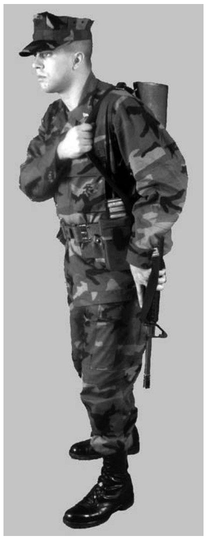


Figure 11

(4) Rotate the rifle counterclockwise (until the magazine rests on the left forearm) while extending the muzzle toward the target.

(5) Continue extending the rifle toward the target to ensure the rifle clears all personal gear.

(6) Grasp the charging handle with the right hand and pull it to its rearmost position and release (figure 12).

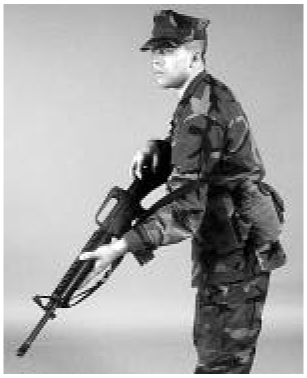


Figure 12

(7) Establish a firing grip with the right hand while keeping the trigger finger straight along the receiver.

(8) Take the rifle off safe and place the trigger finger on the trigger (figures 6, 7, and 8).

(9) Level the rifle while pulling it firmly into the pocket of the shoulder to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTES: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(10) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment, and place the tip of the post center of mass on the target to obtain sight picture.

6. *Determine the lead.*

- When a shot is fired at a moving target, the target continues to move during the time the bullet is in flight. Therefore, a Marine must aim in front of the target, otherwise, the shot will hit behind the target. This is called taking a lead. Lead is the distance in advance of the target that the rifle sights are placed to accurately engage the target when it is moving.

(1) Amount of Lead Required. Factors that affect the amount of lead are the target's range, speed, and angle of movement.

(a) Range. Lead is determined by the rifle's distance to the target. When a shot is fired at a moving target, the target continues to move during the time the bullet is in flight. This time of flight could allow a target to move out of the bullet's path if the round was fired directly at the target. Time of flight increases as range to the target increases.

(b) Speed. If a man is running, a greater lead is required because the man will move a greater distance while the bullet is in flight.

(c) Angle of Movement. The angle of movement across the line of sight relative to the flight of the bullet determines the type (amount) of lead.

(2) Types of Leads. There are three types of leads.

(a) Full Lead. The target is moving straight across a Marine's line of sight with only one arm and half the body visible. This target requires a full lead because it will move the greatest distance across a Marine's line of sight during the flight of the bullet.

(b) Half Lead. The target is moving obliquely across a Marine's line of sight (at a 45-degree angle). One arm and over half the back or chest are visible. This target requires half of a full lead because it will move half as far as a target moving directly across a Marine's line of sight during the flight of the bullet.

(c) No Lead. The target is moving directly toward or away from a Marine and presents a full view of both arms and the entire back or chest. No lead is required. A Marine engages this target as if it were a stationary target because it is not moving across his line of sight.

(3) Point of Aim Technique. See MCRP 3-01A, *Rifle Marksmanship,* paragraph 10003a for a detailed discussion on the point of aim technique. The following guidelines apply if a Marine uses the point of aim technique to establish a lead for a moving target at various ranges and speeds (figure 13). These guidelines do not consider wind or other effects of weather. Body width in these examples is considered to be 12 inches (side view of the target).

(a) For a slow walking target (approximately 2-2.5 mph) moving directly across the line of sight (full lead):

1. At a range of 200 yards/meters or less, no lead is required.

2. At a range of 300 yards/meters, hold one point of aim in the direction the target is moving.

(b) For a fast walking target (approximately 4 mph) moving directly across the line of sight (full lead):

1. At a range of 200 yards/meters or less, hold one point of aim in the direction the target is moving.

2. At a range of 300 yards/meters, hold two points of aim in the direction the target is moving.

(c) For a target running (approximately 6 mph) directly across the line of sight (full lead):

1. At a range of 100 yards/meters or less, hold one point of aim in the direction the target is moving.

2. At a range of 200 yards/meters, hold two points of aim in the direction the target is moving.

(d) For a target moving at a 45-degree angle (an oblique target) across the line of sight, the lead is one half that required for a target moving directly across the line of sight.

7. *Determine method of engagement.*

- Moving targets are the most difficult targets to engage. However, they can be engaged successfully by using the tracking or the ambush method.

(1) The Tracking Method. The tracking method is used for a target that is moving at a steady pace over a well-determined route. If a Marine uses the tracking method, he tracks the target with the rifle’s front sight post while maintaining sight alignment and a point of aim on or ahead of (leading) the target until the shot is fired. When establishing a lead on a moving target, the rifle sights will not be centered on the target and instead will be held on a lead in front of the target (figure 13). To execute the tracking method, a Marine performs the following steps:

(a) Present the rifle to the target.

(b) Swing the muzzle of the rifle through the target (from the rear of the target to the front) to the desired lead (point of aim). The point of aim may be on the target or some point in front of the target depending upon the target's range, speed, and angle of movement.

(c) Track and maintain focus on the front sight post while acquiring the desired sight picture. It may be necessary to shift the focus between the front sight post and the target while acquiring sight picture, but the focus must be on the tip of the front sight post when the shot is fired.

(d) Engage the target once sight picture is acquired while maintaining the proper lead.

(e) Follow-through so the lead is maintained as the bullet exits the muzzle.

(f) Continue to track in case a second shot needs to be fired on the target.

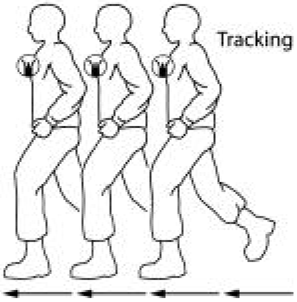


Figure 13

(2) The Ambush Method. The ambush method is used when it is difficult to track the target with the rifle, as in the prone or sitting position. The lead required to effectively engage the target determines the engagement point. With the sights settled, the target moves into the predetermined engagement point and creates the desired sight picture (figure 14). The trigger is pulled simultaneously with the establishment of sight picture. To execute the ambush method, a Marine performs the following steps:

(a) Select an aiming point ahead of the target.

(b) Obtain sight alignment on the aiming point.

(c) Hold sight alignment until the target moves into vision and the desired sight picture is established.

(d) Engage the target once sight picture is acquired.

(e) Follow-through so the rifle sights are not disturbed as the bullet exits the muzzle. A variation of the ambush method can be used when engaging a stop and go target. A Marine should look for a pattern of exposure; e.g., every 15 seconds. Once a pattern is determined, a Marine establishes a lead by aiming at a point in front of the area in which the target is expected to appear, then he fires the shot at the moment the target appears.

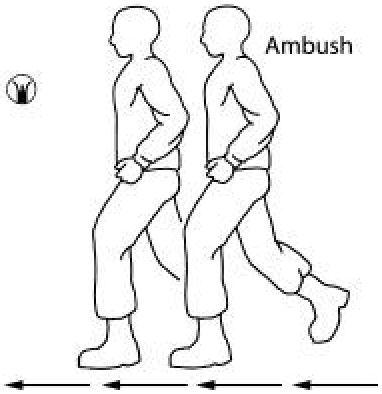


Figure 14

(3) Marksmanship Fundamentals. Engaging moving targets requires concentration and adherence to the fundamentals of marksmanship. The following modifications to the fundamentals of marksmanship are critical to the engagement of moving targets.

(a) Sight Picture. Typically, sight picture is the target's center of mass. If a Marine engages a moving target, he bases his sight picture on the target's range, speed, and angle of movement, i.e., sight alignment may be established on a point of aim in front of the target.

(b) Trigger Control. As with any target engagement, trigger control is critical to the execution of shots that do not disturb sight alignment or sight picture. A Marine can apply pressure on the trigger prior to establishing sight picture, but there should be no rearward movement of the trigger until sight picture is established. Interrupted trigger control is not recommended because the lead will be lost or have to be adjusted to reassume proper sight picture. When using the tracking method, continue tracking as trigger control is applied to ensure the shot does not impact behind the moving target.

(c) Follow-through. If a Marine uses the tracking method to engage moving targets, he continues to track the target during follow-through so the desired lead is maintained as the bullet exits the muzzle. Continuous tracking also enables a second shot to be fired on target if necessary.

(d) Stable Position. To engage moving targets using the tracking method, the rifle must be moved smoothly and steadily as the target moves. A stable position steadies the rifle sights while tracking. Additional rearward pressure may be applied to the pistol grip to help steady the rifle during tracking and trigger control. The elbows may be moved from the support so the target can be tracked smoothly.

8. *Engage moving target.*

a. In combat, it is unlikely that a target will remain stationary. The enemy will move quickly from cover to cover, exposing himself for the shortest possible time. Therefore, a Marine must quickly engage a moving target before it disappears.

- Types of Moving Targets. There are two types of moving targets: moving targets and stop and go targets. Moving targets move in a consistent manner and remain in a Marine's field of vision. A walking or running man is an example of a moving target. A stop and go target appears and disappears during its movement. A stop and go target will present itself for only a short time before it reestablishes cover. An enemy moving from cover to cover is an example of a stop and go target. This target is most vulnerable to fire at the beginning and end of its movement to new cover because the target must gain momentum to exit its existing cover and then slow to avoid overrunning the new cover position.

b. A Marine must maintain the ability to react instinctively in a combat environment—day or night. He must possess a combat mindset that eliminates any hesitation, fear, or uncertainty of action, allows him to engage the enemy rapidly, and allows him to focus on the actions required to fire well-aimed shots. A Marine must remember that speed alone does not equate to effective target engagement. He should fire only as fast as he can fire accurately. He should never exceed his physical capability to engage a target effectively. To be effective in combat, a Marine must train to perfect the physical skills of target engagement (such as presenting the weapon and assuming a shooting position) until they become instinctive. In addition, a Marine must employ effective engagement techniques that enable the acquisition and engagement of a variety of targets in diverse combat conditions.

c. To be proficient, a Marine rifleman must be able to detect targets, determine the range to targets, and accurately engage the targets. There are many variables affecting a Marine’s ability to detect and determine the range to combat targets. An enemy rarely fails to use some type of cover or concealment when he is in the vicinity of Marine units. Enemy targets on the battlefield may be single or multiple, stationary or moving, or completely hidden from view. Success in locating an enemy target will depend upon the observer’s position, his skill in searching an area, and his ability to recognize target indicators.

9. *Assume the “ready.”*

- **Ready.** A Marine carries the rifle at the Ready if contact with the enemy is imminent. The Ready allows immediate target engagement, but it is very tiring to maintain over a long period of time. A Marine performs the following steps to assume the Ready:

(1) Place the left hand on the handguards, the right hand around the pistol grip, the trigger finger straight along the receiver (figure 15), and the right thumb on top of the selector lever (figure 16).

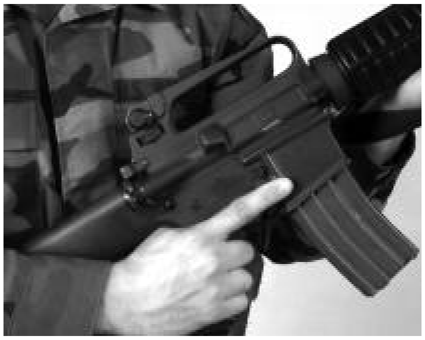


Figure 15

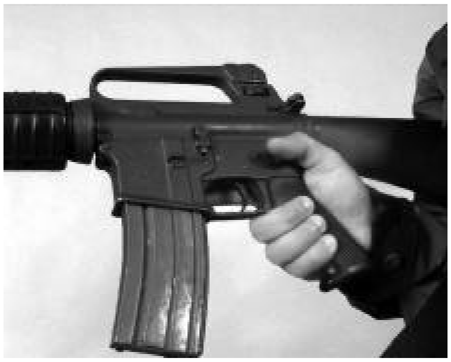


Figure 16

(2) Place the buttstock in the shoulder.

(3) Point the muzzle in the direction of the enemy.

(4) Lower the sights to just below eye level so that a clear field of view is maintained so that a target may be identified (figure 17).

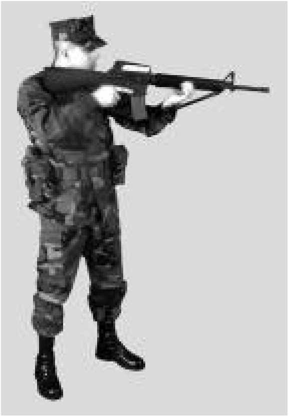


Figure 17

10. Search and assess the situation.

a. After a Marine engages a target, he must immediately search the area and assess the results of his engagement. Searching and assessing enables the Marine to avoid tunnel vision that can restrict the focus so that an indication of other targets is overlooked.

b. The Marine searches the area for additional targets or for cover. The Marine assesses the situation to determine if he needs to re-engage a target, engage a new target, take cover, assume a more stable position, cease engagement, etc.

c. The Marine moves only as fast as he is capable of delivering well-aimed shots on target. The speed of engagement should not exceed physical abilities. To search and assess, a Marine performs the following steps:

(1) Keeping the buttstock in the shoulder, lower the muzzle of the rifle slightly to look over the sights.

(2) Place the trigger finger straight along the receiver (figure 18).

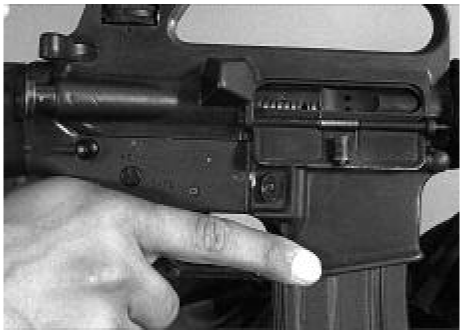


Figure 18

(3) Search the area and assess the situation/threat by moving the head, eyes, and rifle left and right to cover the immediate area. The muzzle moves with the head and eyes in one fluid motion while searching. Keep both eyes open to increase the field of view.

(4) Once a Marine determines the area is clear of enemy threat, he places the rifle on safe.

REFERENCE(S):

MCRP 3-01A, *Rifle Marksmanship*
SLR. 28, Moving Target Engagement

TASK:	**MCCS.11.11 (CORE) ENGAGE MOVING TARGETS AT UNKNOWN DISTANCES WITH THE M16A2 SERVICE RIFLE**
CONDITION:	**GIVEN AN M16A2 SERVICE RIFLE, 782-GEAR, AMMUNITION, AND MAN-SIZED TARGETS.**
STANDARD:	**TO ACHIEVE 8 HITS OUT OF 16 ROUNDS FIRED PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given an M16A2 service rifle, 782-gear, ammunition, and man-sized targets.

Standard: To achieve 8 hits out of 16 rounds fired per the reference.

PERFORMANCE STEPS:

1. *Handle the weapon safely.*

a. Apply the following safety rules at all times to ensure that only the intended target is engaged.

SAFETY RULES	
Rule 1:	Treat every weapon as if it were loaded.
Rule 2:	Never point a weapon at anything you do not intend to shoot.
Rule 3:	Keep your finger straight and off the trigger until you are ready to fire.
Rule 4:	Keep the weapon on safe until you intend to fire.

b. A weapon's readiness/safety is described by one of four conditions. The steps in the loading and unloading process take the rifle through four specific conditions of readiness for live fire.

CONDITION CODES	
Condition 1	Safety on, magazine inserted, round in chamber, bolt forward, ejection port cover closed.
Condition 2	Not applicable to the M16A2 rifle.
Condition 3	Safety on, magazine inserted, chamber empty, bolt forward, ejection port cover closed.
Condition 4	Safety on, magazine removed, chamber empty, bolt forward, ejection port cover closed.

c. Weapon commands dictate the specific conditions required to load and unload the rifle.

COMMANDS	
Load	This command is used to take the weapon from Condition 4 to Condition 3.
Make Ready	This command is used to take the weapon from Condition 3 to Condition 1.
Fire	This command is used to specify when a Marine may engage targets.
Cease Fire	This command is used to specify when a Marine must stop target engagement.
Unload	This command is used to take the weapon from any condition to Condition 4.
Unload Show Clear	This command is used when a second individual must check the weapon to verify that no ammunition is present before the rifle is placed in Condition 4.

2. *Place the rifle in condition 3.*

a. Ensure the weapon is in condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine to make sure it is seated.

f. Fasten the magazine pouch.

g. Close the ejection port cover.

3. Place the rifle in condition 1.

a. Ensure the weapon is in condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Ensure the magazine is filled.

d. Fully insert the magazine in the magazine well.

e. Without releasing the magazine, tug downward on the magazine to ensure it is seated. Do not hit the magazine to make sure it is seated.

f. Pull the charging handle to the rear and release. There are two methods of doing this:

  (1) Grip the pistol grip firmly with the right hand and pull the charging handle with the left hand to its rearmost position and release, or

  (2) Grip the handguards firmly with the left hand and pull the charging handle with the right hand to its rearmost position and release.

g. To ensure ammunition has been chambered, conduct a chamber check if the tactical situation permits.

h. Check the sights to ensure proper BZO setting, correct rear sight aperture, etc.

i. Close the ejection port cover, if time and situation permit.

4. Apply the eye, muzzle, target technique.

- Apply the fundamentals of marksmanship. The fundamentals of marksmanship are aiming, breath control, and trigger control. These fundamentals provide the foundation for all marksmanship principles and skills. For rifle fire to be effective, it must be accurate. A rifleman who merely sprays shots in the vicinity of the enemy produces little effect. The fundamentals of marksmanship, when applied correctly, form the basis for delivering accurate fire on enemy targets. These skills must be developed so that they are applied instinctively. During combat, the fundamentals of marksmanship must be applied in a limited time frame, which corresponds to the size and the distance of the target. At longer ranges, the target is smaller and a more precise shot is required to accurately engage the target. The fundamentals are more critical to accurate engagement as the range to the target increases. To be accurate at longer ranges, the Marine must take the time to slow down and accurately apply the fundamentals. At shorter ranges, the enemy must be engaged quickly before it engages the Marine. As the size of the target increases and the distance to the target decreases, the fundamentals, while still necessary, become less critical to accuracy. In combat a Marine must apply proper aiming, breathing, and trigger control techniques without hesitation.

  (1) Sight Alignment. Sight alignment is the relationship between the front sight post and rear sight aperture and the aiming eye. This relationship is the most critical to aiming and must remain consistent from shot to shot. To achieve correct sight alignment (figure 1): Center the tip of the front sight post vertically and horizontally in the rear sight aperture. Imagine a horizontal line drawn through the center of the rear sight aperture. The top of the front sight post will appear to touch this line. Imagine a vertical line drawn through the center of the rear sight aperture. The line will appear to bisect the front sight post.

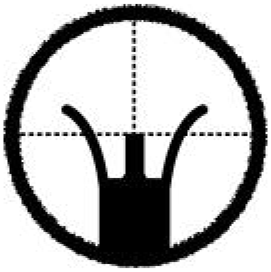


Figure 1

(2) Sight Picture. Sight picture is the placement of the tip of the front sight post in relation to the target while maintaining sight alignment. Correct sight alignment but improper sight placement on the target will cause the bullet to impact the target incorrectly. To achieve correct sight picture, place the tip of the front sight post at the center of the target while maintaining sight alignment (figure 2). Center of mass is the correct aiming point so that point of aim/point of impact is achieved.

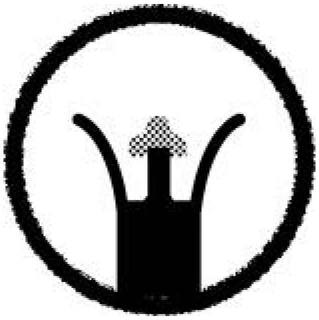


Figure 2

(3) The sighting system for the M16A2 rifle is designed to work using a center of mass sight picture.

(4) In combat, targets are often indistinct and oddly shaped. The center of mass hold provides a consistent aiming point (figure 3).

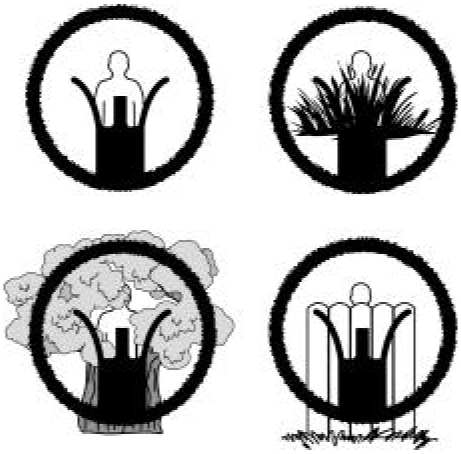


Figure 3

5. *Estimate the range to the target.*

a. To engage targets at unknown distances, a Marine must determine the distance from his location to a known point. This is known as range estimation. The ability to determine range is a skill that must be developed if a Marine is to successfully engage targets at unknown distances. Precise range estimation enhances accuracy, enhances the chance of survival, and determines whether or not a target can be effectively engaged using the rifle's existing BZO or if a new sight setting or point of aim is required.

b. Range Estimation Methods

(1) Unit of Measure Method. To use this method, a Marine visualizes a distance of 100 yards/meters on the ground, and then estimates how many of these units will fit between him and the target. This determines the total distance to the target (figure 4). The greatest limitation of this method is that its accuracy is related to the amount of visible terrain. For example, if a target appears at a range of 500 yards/meters or more and only a portion of the ground between a Marine and the target can be seen, it becomes difficult to use the unit of measure method to estimate range accurately. A Marine must practice this method frequently to be proficient. Whenever possible, a Marine should select an object, estimate the range, and then verify the actual range by either pacing or using another accurate measurement.

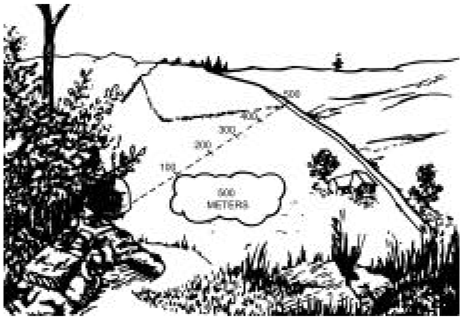


Figure 4

(2) Front Sight Post Method. The area of the target covered by the rifle’s front sight post can be used to estimate range to a target. A Marine notes the appearance of the front sight post on a known-distance target. The Marine then uses this as a guide to determine range over an unknown distance. Because the apparent size of the target changes as the distance to the target changes, the amount of the target covered by the front sight post varies based on the range. In addition, a Marine's eye relief and perception of the front sight post affect the amount of the target that is visible. To use this method, a Marine must apply the following guidelines:

(a) The front sight post covers the width of a man's chest or body at approximately 300 yards/meters.

(b) If the target is less than the width of the front sight post, the target is in excess of 300 yards/meters. Therefore, the rifle’s BZO cannot be used effectively.

(c) If the target is wider than the front sight post, the target is less than 300 yards/meters and can be engaged point of aim/point of impact using the rifle’s BZO (figure 5.)

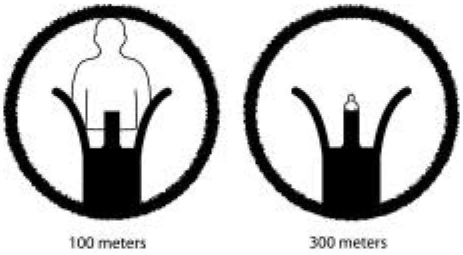


Figure 5

(3) Visible Detail Method. The amount of detail seen at various ranges can provide a Marine with an estimate of the target's distance. To use this method, a Marine must be familiar with the size and various details of personnel and equipment at known distances. Factors that impair visibility (such as weather, smoke, or darkness) limit the effectiveness of this method. The Marine should observe a man while he is standing, kneeling, and in the prone position at known ranges of 100 to 500 yards/meters and should note the man's size, characteristics/size of his uniform and equipment, and any other pertinent details. The Marine then uses this as a guide to determine range over an unknown distance. The Marine also should study the appearance of other familiar objects such as rifles and vehicles. To use this method, a Marine applies the following general guidelines:

(a) At 100 yards/meters, the target can be clearly observed in detail and facial features can be distinguished.

(b) At 300 yards/meters, the target has a clear body outline, face color usually remains accurate, but remaining details are blurred.

    (c) At 400 yards/meters, the body outline is clear but remaining detail is blurred.

    (d) At 500 yards/meters, the body shape begins to taper at the ends. The head becomes indistinct from the shoulders.

    (e) At 600 yards/meters, the body is wedge-shaped with no head.

  (4) Bracketing Method. This method of range estimation estimates the shortest possible distance and the greatest possible distance to the target. For example, a Marine estimates that a target may be as close as 300 yards/meters but it could be as far away as 500 yards/meters. The estimated distances are averaged to determine the estimated range to the target. For example, the average of 300 yards/meters and 500 yards/meters is 400 yards/meters.

  (5) Halving Method. This method of range estimation judges ranges out to 800 yards/meters. To use this method, a Marine estimates the distance halfway between him and the target, then doubles that distance to get the total distance to the target. A Marine must take care when judging the distance to the halfway point because any error made in judging the halfway distance is doubled when estimating the total distance.

  (6) Combination Method. The methods previously discussed require optimal conditions with regard to the target, terrain, and visibility to obtain an accurate range estimation. A Marine should estimate the range using two methods and then compare the estimates, or two Marines can compare their estimates. The average of the two estimates should be close to the actual range to the target.

c. Factors Affecting Range Estimation. There are specific factors that will affect the accuracy of estimation. A Marine must be aware of these factors and attempt to compensate for their effects.

  (1) Nature of the Target

    (a) An object with a regular outline such as a steel helmet, rifle, or vehicle on a clear day will appear to be closer than one with an irregular outline such as a camouflaged object.

    (b) A target that contrasts with its background will appear to be closer than one that blends in with its background.

    (c) A partially exposed object will appear to be farther away than it is.

    (d) A target will appear to be farther away if the target is smaller than the objects surrounding it.

  (2) Nature of Terrain

    (a) Upward sloping terrain gives the illusion of shorter distance.

    (b) Downward sloping terrain gives the illusion of greater distance.

    (c) Terrain with dead space makes the target appear to be closer.

    (d) Smooth terrain such as sand, water, or snow gives the illusion of greater distance.

  (3) Light Conditions

    (a) The more clearly a target can be seen, the closer it appears to be.

    (b) A target in full sunlight appears to be closer than one observed at dawn or dusk.

    (c) Smoke, fog, rain, or anything else that obscures vision will give the illusion of greater distance.

    (d) The position of the sun affects estimation by the eye. If the sun is behind the viewer, it lights the target better so the target appears closer. If the sun is directly beyond the target, the glare makes the target appear farther away.

6. *Present the rifle to the target while assuming a firing position.*

a. In a combat environment, targets may present themselves with little or no warning. To maintain an advantage, the Marine carries his weapon in a position appropriate to the threat level that permits the rifle to be easily carried but also presented as quickly as possible. A carry is also established based on the situation such as moving in a close quarter environment, moving over or under objects, etc.

b. Presenting the Rifle From the Tactical Carry. At the Tactical Carry, no immediate threat is present. This carry permits the rifle to be easily carried for long periods of time, but it does not permit the quickest presentation to a target. If the situation changes and a target presents itself, a Marine performs the following steps to present the rifle from the Tactical Carry once a target appears:

(1) Extend the rifle toward the target keeping the muzzle slightly up so the buttstock clears all personal equipment. Continue to look at the target.

(2) At the same time, place the rifle in condition 1. There are two methods of placing the rifle in condition 1 if it is in condition 3:

(3) Grip the pistol grip firmly with the right hand. Pull the charging handle with the left hand to its rearmost position and release (figure 6).

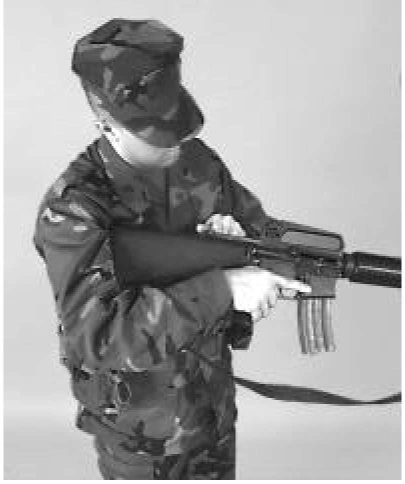


Figure 6

(4) Grip the handguards firmly with the left hand. Pull the charging handle with the right hand to its rearmost position and release (figure 7).

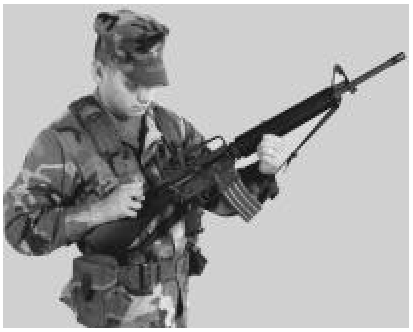


Figure 7

(5) As the rifle is being presented, take the rifle off safe and place the trigger finger on the trigger. (figures 8, 9, and 10)

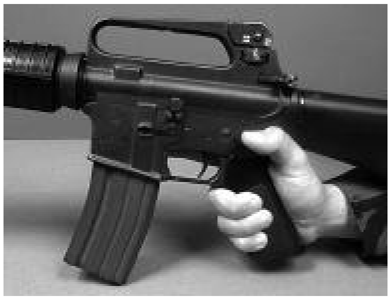


Figure 8

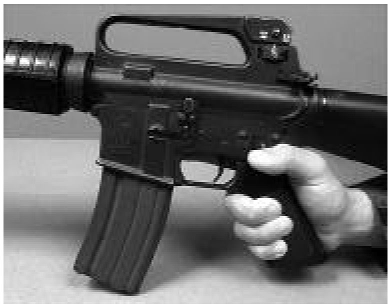


Figure 9

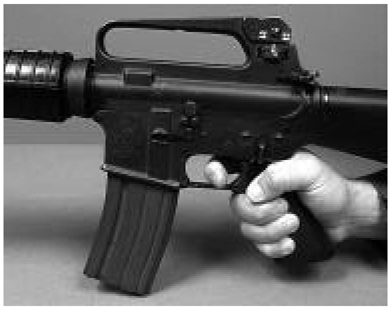


Figure 10

(6) Level the rifle while pulling it firmly into the pocket of the shoulder to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(7) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment, and place the tip of the post center of mass on the target to obtain sight picture.

c. Presenting the Rifle From the Alert and From the Ready. At the Alert, enemy contact is likely. The Alert is also used for moving in urban or other restrictive terrain where targets present themselves in close quarters. At the Ready, enemy contact is imminent. To present the rifle from the Alert, a Marine performs the following steps once a target appears:

(1) While looking at the target, bring the muzzle up by raising the left hand, allowing the rifle butt to pivot in the shoulder. At the same time, pull the rifle firmly into the pocket of the shoulder.

(2) As the rifle is being presented, take the rifle off safe and place the trigger finger on the trigger (figures 8, 9, and 10).

(3) As the stock makes contact with the cheek, level the rifle to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(4) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment, and place the tip of the post center of mass on the target to obtain sight picture.

d. Presenting the Rifle From the Strong Side Sling Arms Transport. To present the rifle from Strong Side Sling Arms, a Marine performs the following steps once a target appears:

(1) While looking at the target, lean forward slightly to facilitate removal of the rifle from the shoulder.

(2) Reach under the right arm with the left hand between the sling and the body and grasp the handguards (figure 11). At the same time, pull down on the sling and raise the right elbow out and parallel to the deck.

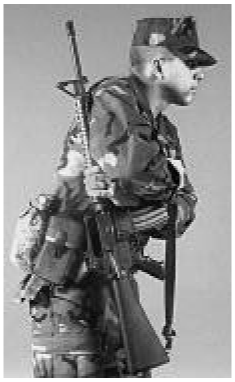


Figure 11

(3) Roll the right shoulder forward and release the sling from the right hand once the handguards have cleared the elbow. At the same time, pull the rifle forward off the shoulder with the left hand.

(4) Continue pulling the rifle forward with the left hand while rotating the rifle parallel to the deck; when the right arm is free of the sling and the rifle clears all personal gear, grasp the charging handle with the right hand (figure 12) and pull it to its rearmost position and release.

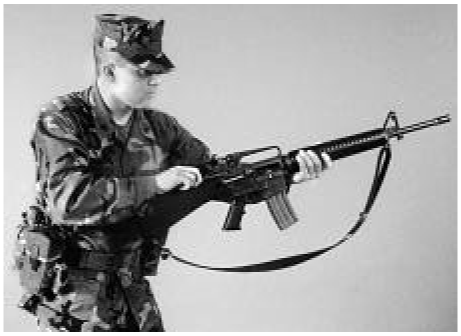


Figure 12

(5) Establish a firing grip with the right hand while keeping the trigger finger straight along the receiver.

(6) Take the rifle off safe and place the trigger finger on the trigger (figures 8, 9, and 10).

(7) Level the rifle while pulling it firmly into the pocket of the shoulder to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTES: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(8) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment, and place the tip of the post center of mass on the target to obtain sight picture.

e. Presenting the Rifle From the Weak Side Sling Arms Transport. The hasty sling should be maintained while presenting the rifle from this transport. To present the rifle from Weak Side Sling Arms, a Marine performs the following steps once a target appears:

(1) While looking at the target, lean forward slightly to facilitate removal of the rifle from the shoulder.

(2) Grasp the sling with the right hand to prevent the rifle from falling off the shoulder.

(3) Grasp the handguards with the left hand (the index finger points toward the muzzle) (figure 13)

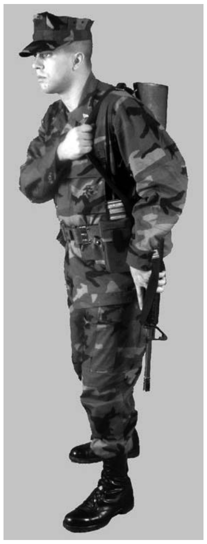


Figure 13

(4) Rotate the rifle counterclockwise (until the magazine rests on the left forearm) while extending the muzzle toward the target.

(5) Continue extending the rifle toward the target to ensure the rifle clears all personal gear**.**

(6) Grasp the charging handle with the right hand and pull it to its rearmost position and release (figure 14).

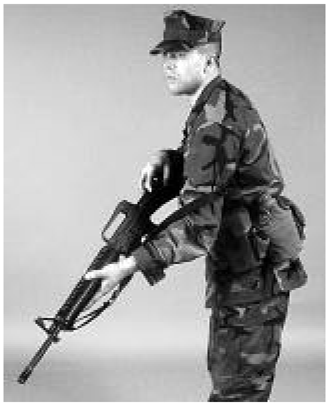


Figure 14

(7) Establish a firing grip with the right hand while keeping the trigger finger straight along the receiver.

(8) Take the rifle off safe and place the trigger finger on the trigger (figures 8, 9, and 10).

(9) Level the rifle while pulling it firmly into the pocket of the shoulder to obtain proper stock weld. Do not move the head down to meet the stock of the rifle.

NOTE: If the rifle is in the shoulder properly, the aiming eye will be able to look through the rear sight as soon as the stock makes contact with the cheek.

(10) As the sights become level with the aiming eye, visually locate the target through the rear sight aperture. As the rifle sights settle, shift the focus back to the front sight post to obtain sight alignment, and place the tip of the post center of mass on the target to obtain sight picture.

7. *Engage target.*

a. A Marine must maintain the ability to react instinctively in a combat environment--day or night. He must possess a combat mindset that eliminates any hesitation, fear, or uncertainty of action, allows him to engage the enemy rapidly, and allows him to focus on the actions required to fire well-aimed shots. A Marine must remember that speed alone does not equate to effective target engagement. He should fire only as fast as he can fire accurately. He should never exceed his physical capability to engage a target effectively. To be effective in combat, a Marine must train to perfect the physical skills of target engagement (such as presenting the weapon and assuming a shooting position) until they become instinctive. In addition, a Marine must employ effective engagement techniques that enable the acquisition and engagement of a variety of targets in diverse combat conditions.

b. To be proficient, a Marine rifleman must be able to detect targets, determine the range to targets, and accurately engage the targets. There are many variables affecting a Marine's ability to detect and determine the range to combat targets. An enemy rarely fails to use some type of cover or concealment when he is in the vicinity of Marine units. Enemy targets on the battlefield may be single or multiple, stationary or moving, or completely hidden from view. Success in locating an enemy target will depend upon the observer's position, his skill in searching an area, and his ability to recognize target indicators.

8. *Assume the "ready."*

- **Ready.** A Marine carries the rifle at the Ready if contact with the enemy is imminent. The Ready allows immediate target engagement, but it is very tiring to maintain over a long period of time. A Marine performs the following steps to assume the Ready:

(1) Place the left hand on the handguards, the right hand around the pistol grip, the trigger finger straight along the receiver (figure 15), and the right thumb on top of the selector lever (figure 16).

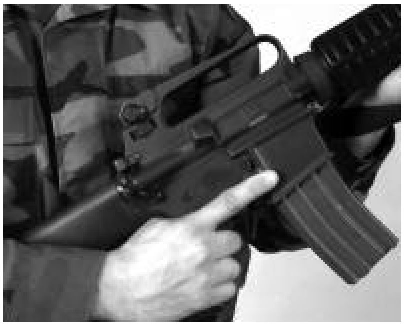


Figure 15

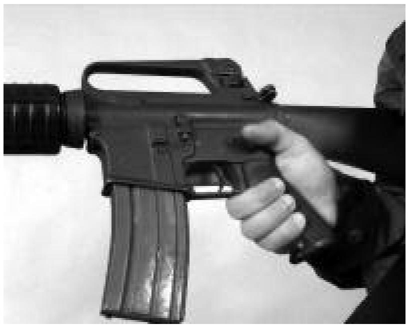


Figure 16

(2) Place the buttstock in the shoulder.

(3) Point the muzzle in the direction of the enemy.

(4) Lower the sights to just below eye level so that a clear field of view is maintained so that a target may be identified (see figure 17).

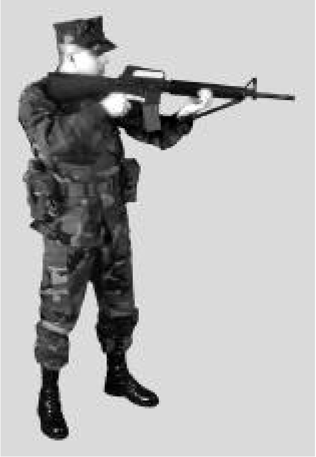


Figure 17

9. *Search and assess the situation.*

a. After a Marine engages a target, he must immediately search the area and assess the results of his engagement. Searching and assessing enables the Marine to avoid tunnel vision that can restrict the focus so that an indication of other targets is overlooked.

b. The Marine searches the area for additional targets or for cover. The Marine assesses the situation to determine if he needs to re-engage a target, engage a new target, take cover, assume a more stable position, cease engagement, etc.

c. The Marine moves only as fast as he is capable of delivering well-aimed shots on target. The speed of engagement should not exceed physical abilities. To search and assess, a Marine performs the following steps:

(1) Keeping the buttstock in the shoulder, the Marine lowers the muzzle of the rifle slightly to look over the sights.

(2) The Marine places the trigger finger straight along the receiver (figure 18).

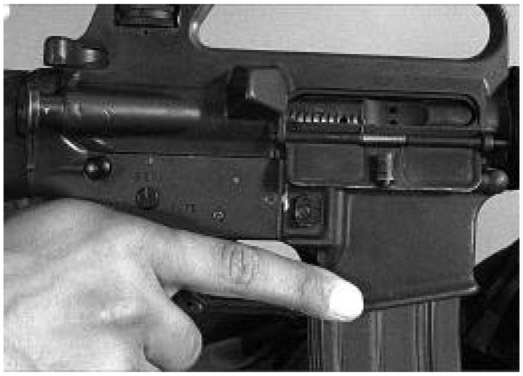


Figure 18

(3) The Marine searches the area and assess the situation/threat by moving the head, eyes, and rifle left and right to cover the immediate area. The muzzle moves with the head and eyes in one fluid motion while searching. Keep both eyes open to increase the field of view.

(4) Once a Marine determines the area is clear of enemy threat, he places the rifle on safe.

REFERENCE(S):

MCRP 3-01A, *Rifle Marksmanship*
SLR. 29, *Range Estimation*
SLR. 29a, *Unknown Distance Firing*

TASK:	**MCCS.11.12 (CORE) PERFORM WEAPONS HANDLING FOR THE M203 GRENADE LAUNCHER**.
CONDITION:	**GIVEN A M16A2 SERVICE RIFLE WITH A MOUNTED M203 GRENADE LAUNCHER AND DUMMY AMMUNITION.**
STANDARD:	**TO ACHIEVE THE PERFORMANCE STEPS AND WITHOUT VIOLATING THE FOUR SAFETY RULES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition:	The Marine is provided with a M16A2 service rifle with a mounted M203 grenade launcher, all individual combat equipment (782 gear), and dummy ammunition.
Standard:	The Marine must handle the weapon safely at all times, load, unload, assume firing positions, and respond to fire commands. He or she must perform immediate action for a malfunction or stoppage, and ensure the weapon is completely safe after firing.

PERFORMANCE STEPS:

1. *Handle the weapon safely.*

SAFETY RULES	
Rule 1	Treat every weapon as if it were loaded.
Rule 2	Never point a weapon at anything you do not intend to shoot.
Rule 3	Keep your finger straight and off the trigger until you are ready to fire.
Rule 4	Keep the weapon on safe until you intend to fire.

- A weapon's readiness/safety is described by one of four conditions contained in step 5.

2. *Clear the M16A2 service rifle.*

a. Attempt to place the weapon on safe.

b. Remove the magazine from the rifle and retain it on your person.

c. While cupping the left hand under the ejection port, rotate the weapon until the ejection port is facing down.

d. Pull the charging handle to the rear and catch the round in the left hand.

e. Lock the bolt to the rear.

f. Put the weapon on safe, if it would not move to safe earlier.

g. Ensure the chamber is empty and no ammunition is present.

h. Release the charging handle and observe the bolt moving forward on an empty chamber.

i. Close the ejection port cover.

j. Check the sights for proper BZO setting, correct rear sight aperture, etc.

k. Place any ejected round into the magazine and return the magazine to the magazine pouch and close the magazine pouch.

3. *Clear the M203 grenade launcher.*

a. Push in the release button, and pull the barrel forward.

b. Watch to see if a round extracts.

c. Place the safety on SAFE.

d. Inspect the chamber to ensure no ammunition is present.

e. Pull the barrel to the rear until it clicks.

4. *Demonstrate the four safety rules.*

- Follow the four safety rules described in step 1.

5. *Demonstrate the weapon conditions.*

Condition Codes	**M16A1**	**M203**
Condition 1	Magazine inserted, round in chamber, bolt forward, safety on, ejection port cover closed	Round in chamber, action closed, safety on
Condition 2	Not applicable to the M16A2	Not applicable to the M203
Condition 3	Magazine inserted, chamber empty, bolt forward, safety on, ejection port cover closed	Not applicable to the M203
Condition 4	Magazine removed, chamber empty, bolt forward, safety on, ejection port cover closed	Chamber empty, action closed, safety on

6. *Demonstrate loading the weapon.*

a. Ensure the weapon is in condition 4.

b. Depress barrel latch and push the barrel assembly all the way forward.

c. Place the weapon on SAFE.

d. Insert a clean, dry, undented round into the chamber until fully seated.

e. Pull barrel assembly to the rear until the barrel latch locks into position.

7. *Demonstrate unloading the weapon.*

a. Attempt to put the weapon on SAFE.

b. Depress the barrel latch and move the barrel assembly forward, catching the round as it is extracted from the chamber.

c. Secure the round.

d. Inspect the chamber to ensure that no ammunition is present.

e. Pull the barrel assembly to the rear until the barrel latch locks into position.

f. Put the weapon on SAFE.

8. *Execute the six firing commands.*

a. Load: This command is used to take the M203 from condition 4 to condition 1.

(1) Ensure the weapon is in condition 4.

(2) Depress barrel latch and push the barrel assembly all the way forward.

(3) Place the weapon on SAFE.

(4) Insert a clean, dry, undented round into the chamber until fully seated.

(5) Pull barrel assembly to the rear until the barrel latch locks into position.

b. Make Ready: This command serves the same purpose as load for the M203 (condition 3 does not apply).

c. Fire: This command is used to specify when a Marine may engage targets.

d. Cease Fire: This command is used to specify when a Marine must stop target engagement.

e. Unload: This command is used to take the M203 from any condition to condition 4.

(1) Attempt to put the weapon on SAFE.

(2) Depress the barrel latch and move the barrel assembly forward, catching the round as it is extracted from the chamber.

(3) Secure the round.

(4) Inspect the chamber to ensure that no ammunition is present.

(5) Pull the barrel assembly to the rear until the barrel latch locks into position.

(6) Put the weapon on SAFE.

f. Unload, Show Clear: This command is used when a second individual must check the weapon to verify that no ammunition is present before the rifle is placed in condition 4.

(1) Attempt to put the weapon on SAFE.

(2) Depress the barrel latch and move the barrel assembly forward, catching the round as it is extracted from the chamber.

(3) Secure the round.

(4) Inspect the chamber to ensure that no ammunition is present.

(5) Have a second party inspect the weapon to ensure no ammunition is present.

(6) Pull the barrel assembly to the rear until the barrel latch locks into position.

(7) Put the weapon on SAFE.

9. *Demonstrate the three firing positions.*

a. Prone position.

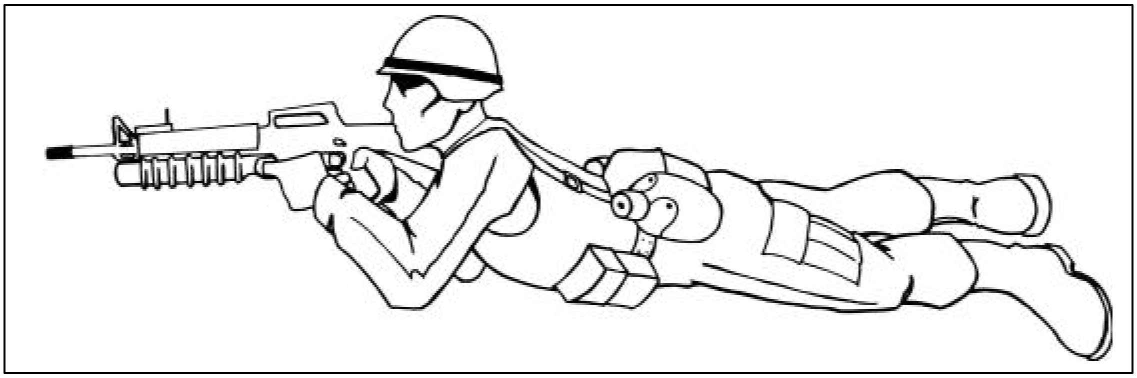


Figure 1

(1) Lie face down, grasp the M16 pistol grip with your right hand, and place the butt of the rifle into the pocket of your right shoulder as shown in figure 1.

(2) Lower your right elbow to the ground so your shoulders are level. This places the weight of your body behind the weapon, which enables you to recover quickly each time you fire.

(3) Grasp the rifle magazine with your left hand. Straighten your upper body and spread your legs a comfortable distance apart. Try to point your toes outward and relax your ankles so your heels will rest on the ground. Relax the weight of your upper body forward onto your left arm.

(4) For ranges greater than 150 meters, lower the buttstock of the weapon to obtain the proper sight alignment and sight picture. Grip firmly to prevent this from moving the weapon from your shoulder pocket.

WARNING: Make sure the sling is clear of the weapon muzzle before firing.

b. Kneeling position.

(1) Kneel on your right knee while facing the target, with your left hand on the magazine and your right grasping the rifle' s pistol grip as shown in figure 2.

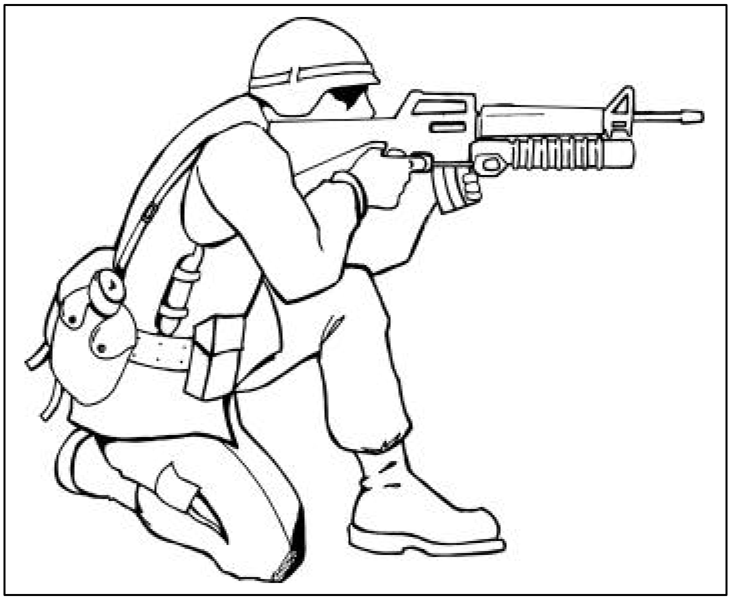


Figure 2

(2) Place your left foot about .45 meters (18 inches) to your left front, with your toes pointing in the general direction of the target.

(3) Keeping your right toe in place, sit on your right heel.

(4) Place your left elbow forward of your left knee, resting the flat portion of your upper arm on your knee.

(5) Move the rifle butt into the pocket of your right shoulder, pulling the rifle pistol grip with your right hand.

(6) With your left hand on the rifle magazine, place your left forefinger in the trigger guard of the grenade launcher.

(7) Pull the rifle firmly into your shoulder.

(8) Pull your right elbow in close to your body to help you apply rearward pressure to the weapon. Make sure that your leg completes a solid, three-point base for your position. For ranges greater than 150 meters, lower the buttstock of the weapon to obtain the proper sight alignment and sight picture. Grip firmly to prevent this from moving the weapon from your shoulder pocket.

c. Standing position.

(1) Face the target standing, and spread your feet a comfortable distance apart as shown in figure 3.

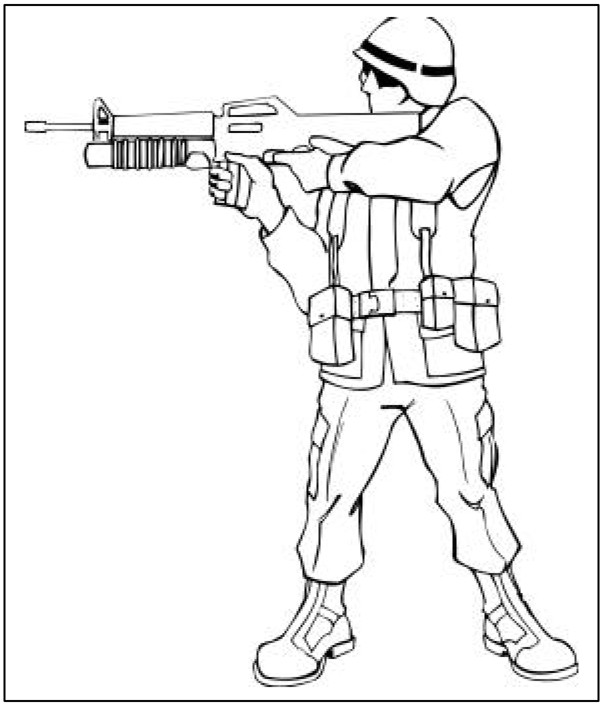


Figure 3

(2) Grasp the rifle pistol grip with your right hand and the rifle magazine with your left hand. Then place the butt of the stock into your right shoulder so the sight is level with your eyes.

(3) Hold your right elbow high to form a good pocket for the butt of the stock and permit a strong rearward pressure with your right hand.

(4) Hold most of the weight of the weapon with your left hand.

(5) Shift your feet until you achieve a natural aiming stance.

(6) For ranges greater than 150 meters, lower the buttstock of the weapon to obtain the proper sight alignment and sight picture. Grip firmly to prevent this from moving the weapon from your shoulder pocket.

10. Apply immediate action.

a. Immediate action is an unhesitating response to a stoppage without investigating the cause.

b. Keep the M203 pointed down range or at the target, and keep everyone clear of its muzzle.

c. Wait 30 seconds.

d. Depress the barrel latch and push the barrel assembly all the way forward.

e. Clear obstructions in the chamber.

f. Pull barrel assembly to the rear until the barrel latch locks.

g. Sight and fire.

WARNING: If the weapon has not been fired, avoid detonating the round by either catching it as it ejects or reducing the distance it falls by holding the weapon close to the ground. Do not do this over a hard surface.

11. Apply remedial action.

a. Remedial action is performed if immediate action fails to clear the stoppage.

b. If the weapon fails to fire after performing immediate action, apply remedial action as outlined in TM 9-1010-221-10, *40mm Grenade Launcher*.

REFERENCE(S):

FM 23-31, *40-mm Grenade Launchers M203 and M79*
MCRP 3-01A, *Rifle Marksmanship*

AMMUNITION:

DODIC	NOMENCLATURE	INITIAL PROFICIENCY	PER ITERATION	ANNUAL SUSTAINMENT
B472	CTG 40MM, LINKED, DUMMY F/MK19	1.000 EA	1.000 EA	1.000 EA

TASK: **MCCS.11.13 (CORE) MAINTAIN THE M203 GRENADE LAUNCHER**

CONDITION: **GIVEN AN M16A2 SERVICE RIFLE WITH A MOUNTED M203 GRENADE LAUNCHER.**

STANDARD: **TO ACCOMPLISH PERFORMANCE STEPS.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided an M203 grenade launcher; a bore brush; cleaner, lubricant, and preservative (CLP); and clean rags.

Standard: The Marine must safely handle the weapon at all times. He must disassemble, inspect, and clean the weapon, ensuring that it is free of dirt, oil, and carbon. He must also lubricate, reassemble, and perform preventive maintenance and apply function checks.

PERFORMANCE STEPS:

1. *Handle the weapon safely.*

SAFETY RULES	
1	Treat every weapon as if it were loaded.
2	Never point a weapon at anything you do not intend to shoot.
3	Keep your finger straight and off the trigger until you are ready to fire.
4	Keep the weapon on safe until you intend to fire.

2. *Clear the M16A2 service rifle.*

a. Attempt to place the weapon on safe.

b. Remove the magazine from the rifle and retain it on your person.

c. While cupping the left hand under the ejection port, rotate the weapon until the ejection port is facing down.

d. Pull the charging handle to the rear and catch the round in the left hand.

e. Lock the bolt to the rear.

f. Put the weapon on safe, if it would not move to safe earlier.

g. Make sure the chamber is empty and no ammunition is present.

h. Release the charging handle and observe the bolt moving forward on an empty chamber.

i. Close the ejection port cover.

j. Place any ejected round into the magazine, return the magazine to the magazine pouch, and close the magazine pouch.

3. *Clear the M203 grenade launcher.*

a. Attempt to place the weapon on safe.

b. Depress the barrel latch and push the barrel assembly forward, catching the round as it is extracted from the chamber as shown in figure 1.

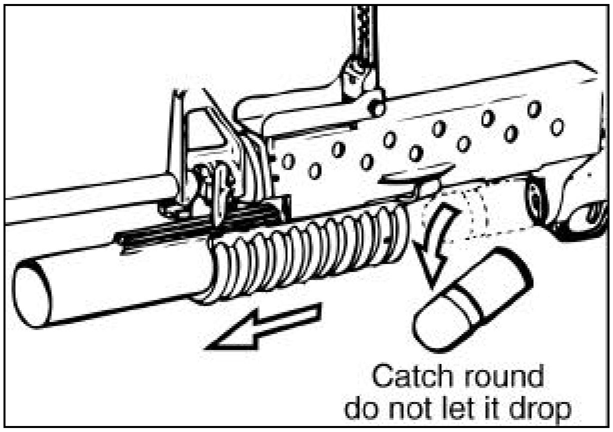


Figure 1

c. Secure the round.

d. Inspect the chamber to ensure that no ammunition is present.

e. Pull the barrel assembly to the rear until the barrel latch locks into position as shown in figure 2.

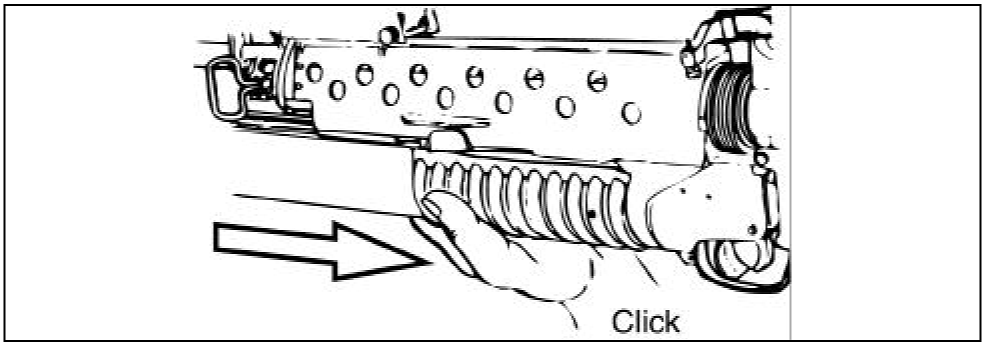


Figure 2

f. Put the weapon on safe.

4. *Disassemble the M203 grenade launcher.*

WARNING: Do not interchange barrel assemblies or components from one weapon to another. Doing so may cause injury or death to personnel.

a. Remove the quadrant sight, if used, by loosening the knurled screw on the right side of the weapon as shown in figure 3.

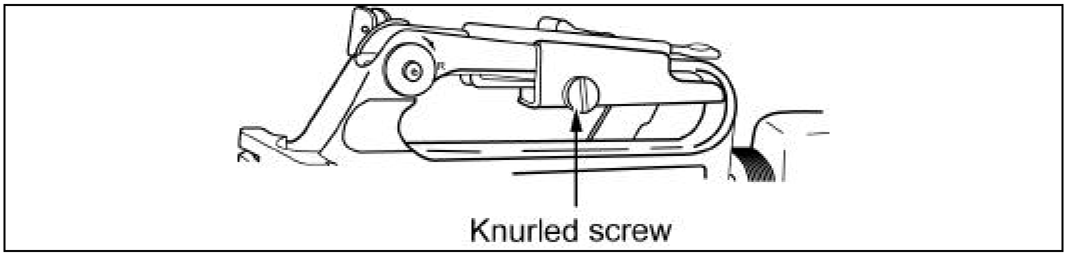


Figure 3

b. Pull back on the slip ring. Lift up the hand guard and pull to the rear then remove hand guard as shown in figure 4.

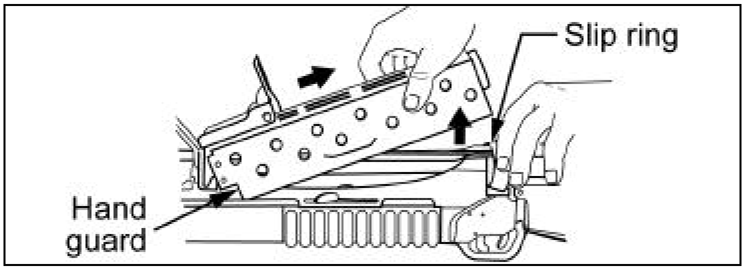


Figure 4

c. Press the barrel latch and move the barrel forward until it stops as shown in figure 5.

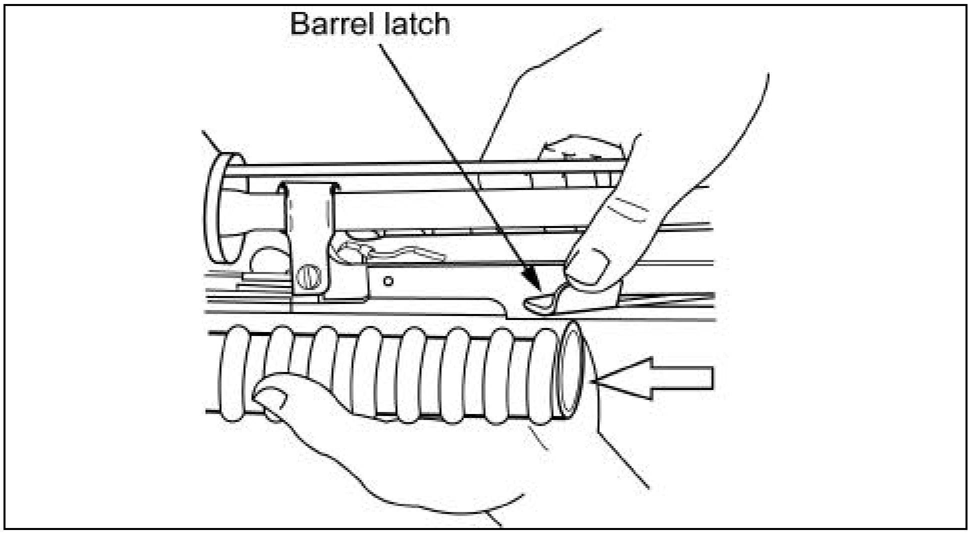


Figure 5

d. Press the barrel stop to release the barrel from the receiver as shown in figure 6.

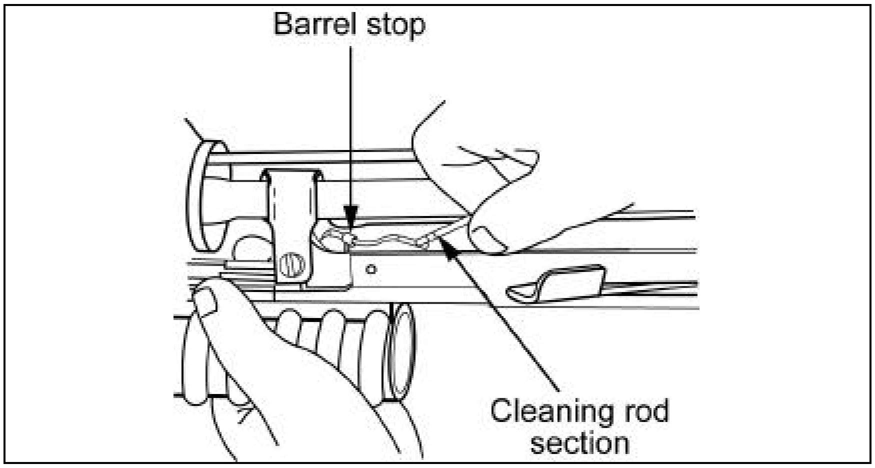


Figure 6

e. Remove the barrel from the receiver.

5. Clean the M203 grenade launcher.

a. Clean the bore and chamber with the bore brush, thong, and CLP as shown in figure 7.

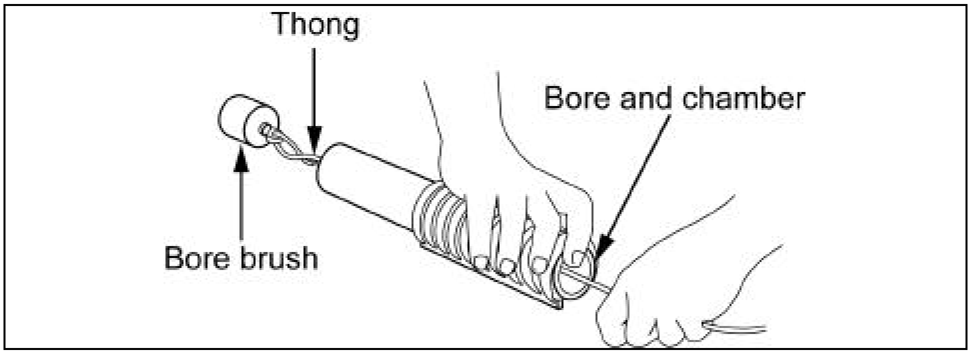


Figure 7

b. Clean the area around the breech insert and firing pin hole using CLP as shown in figure 8.

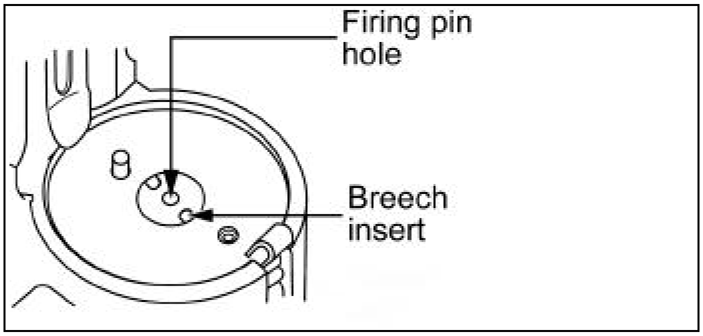


Figure 8

c. Clean all the dust and dirt from the weapon using CLP and a clean rag.

d. Clean the locator slot as shown in figure 9.

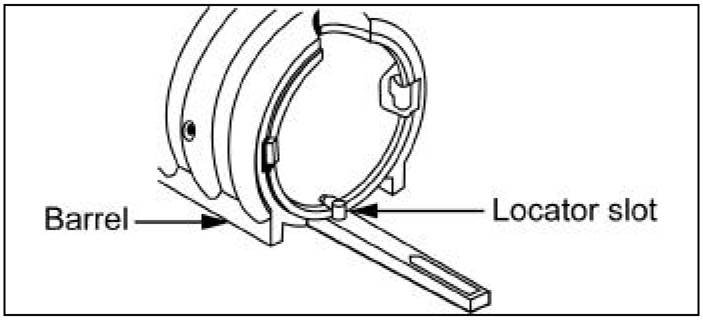


Figure 9

e. Wipe the inside of the barrel with a clean rag.

6. Inspect the M203 grenade launcher.

a. Make an overall visual inspection for missing or damaged components.

b. Make sure that the launcher is firmly attached to the rifle.

c. Check the operation of the sear.

d. Check the operation of the safety.

e. Check the hand guard and leaf sight for damage, and then check sight functioning as shown in figure 10.

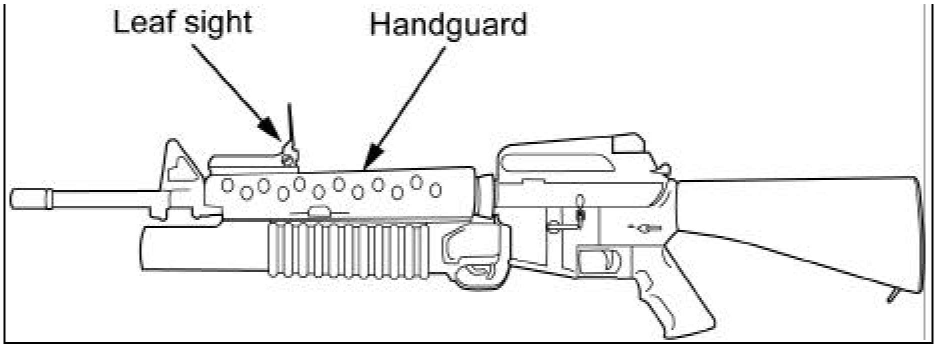


Figure 10

f. Check the quadrant sight for damage, and then check the sight functioning as shown in figure 11.

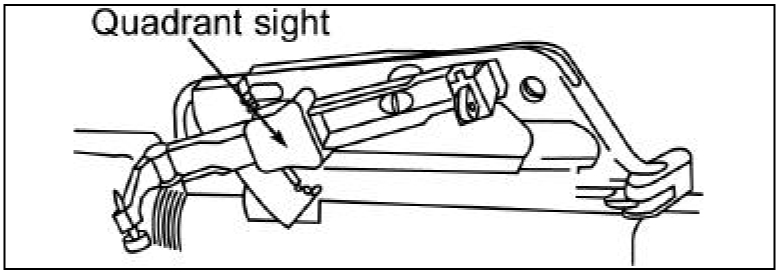


Figure 11

g. Observe the weapon for component failures. Report any failures to the unit armorer.

7. Assemble the M203 grenade launcher.

a. Press the barrel stop and slide the barrel onto the receiver as shown in figure 12.

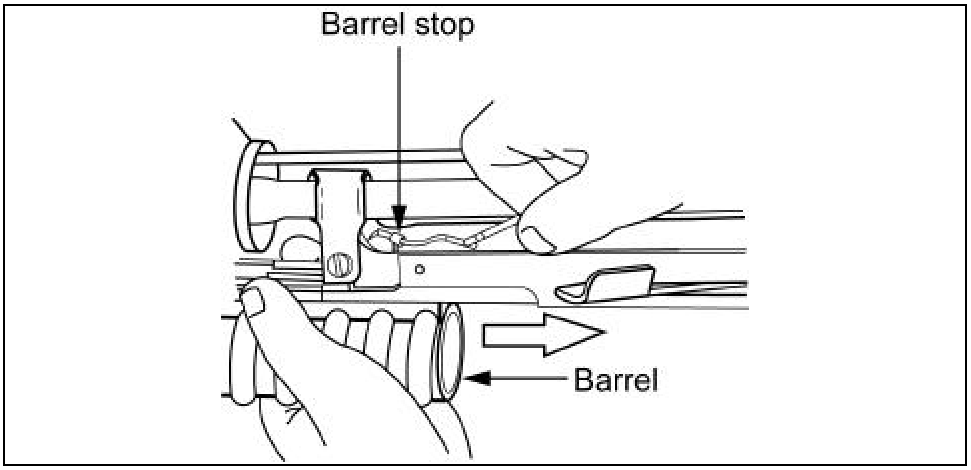


Figure 12

b. Move the barrel rearward to close.

c. Install the hand guard and secure it with the slip ring as shown in figure 13.

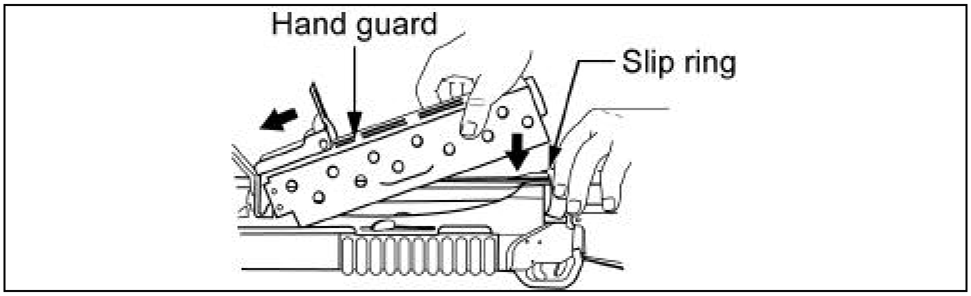


Figure 13

d. Replace the quadrant sight.

8. *Lubricate the grenade launcher*.

a. Move the barrel forward, and lubricate the locator slot and barrel tracks with CLP (figure 14).

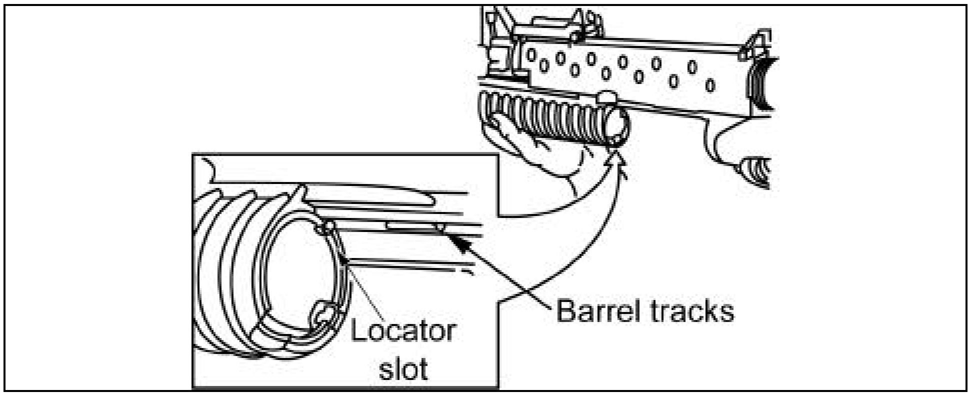


Figure 14

b. With the barrel installed, apply a few drops of CLP through the firing pin hole as shown in figure 15. Keep the weapon pointed up for 10 - 15 seconds. Cock the launcher and squeeze the trigger to spread the oil.

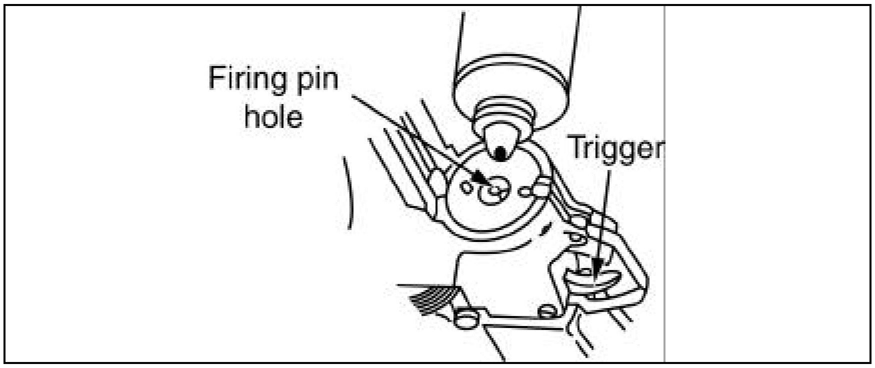


Figure 15

c. Turn the launcher upside down and lubricate the safety detent with CLP as shown in figure 16.

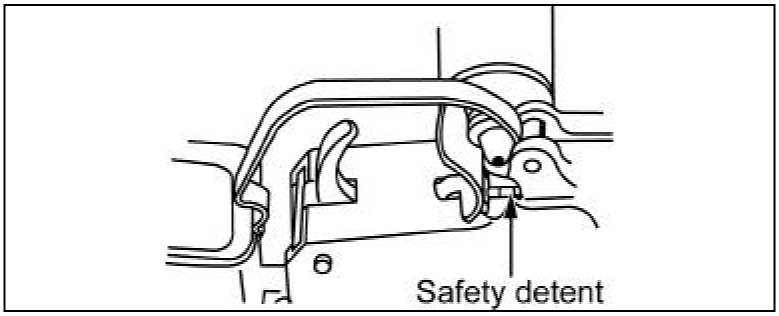


Figure 16

d. Lightly lubricate all metal surfaces with CLP.

9. *Perform the function check.*

WARNING: Make sure that the weapon is in condition 4.

a. Cock the launcher and squeeze the trigger as shown in figure 17. The firing pin should release.

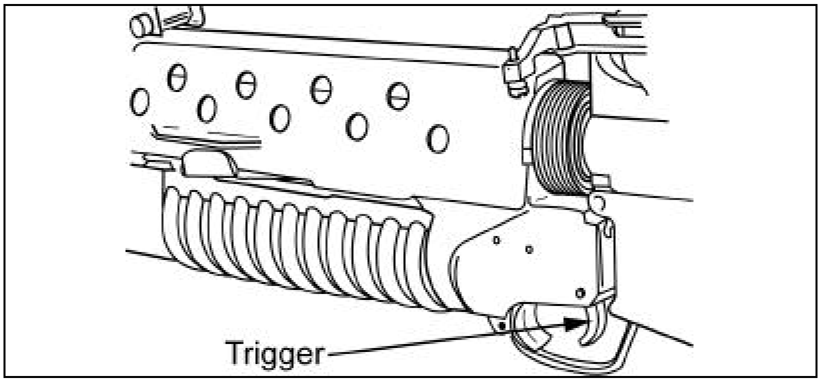


Figure 17

b. Hold the trigger to the rear and cock the launcher.

c. Release the trigger and then squeeze the trigger.

d. Firing pin should release.

WARNING: The launcher could fire without squeezing the trigger if the sear does not function properly.

e. Check the safety in both the safe and fire positions with the trigger as shown in figure 18. The launcher must be cocked before you can place the safety in the safe position.

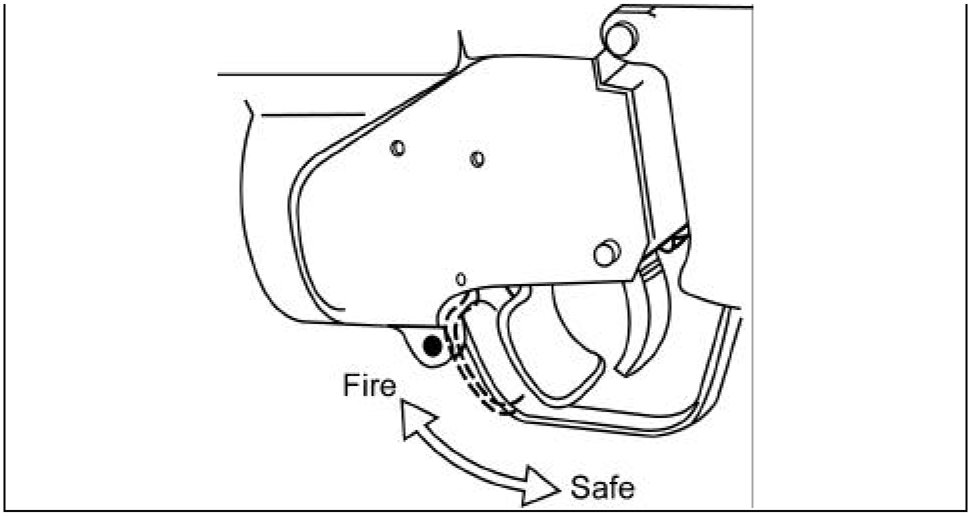


Figure 18

f. Move the barrel forward and backward to ensure that the barrel stop and barrel latch functions as shown in figure 19.

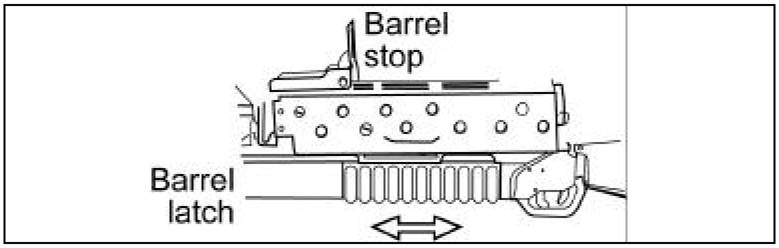


Figure 19

REFERENCE(S):

FM 23-31, *40mm Grenade Launchers M203 and M79*
FMFM 0-8, *Basic Marksmanship*
TM 9-1010-221-10, *Operators Manual, 40mm Grenade Launcher M203 (Chapters 1&2)*

TASK: **MCCS.11.14 (CORE) ZERO THE M203 GRENADE LAUNCHER WITH THE LEAF SIGHT**

CONDITION: **GIVEN AN M16A2 SERVICE RIFLE WITH A MOUNTED M203 GRENADE LAUNCHER, AMMUNITION, AND A KNOWN DISTANCE TARGET.**

STANDARD: **TO ENSURE A ROUND IMPACTS WITHIN 5 METERS OF THE TARGET.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided with an M203 grenade launcher, all individual combat equipment (782 gear), and ammunition.

Standard: The Marine must handle the weapon safely at all times, select the correct ammunition, load, field zero the weapon, estimate range to target, and then effectively engage the target with the leaf sight. He must perform immediate action for a malfunction or a stoppage, perform a function check, and ensure the weapon is completely safe after firing.

PERFORMANCE STEPS:

1. *Handle the weapon safely*.

a. Apply the following safety rules at all times to ensure that only the intended target is engaged.

SAFETY RULES	
Rule 1	Treat every weapon as if it were loaded.
Rule 2	Never point a weapon at anything you do not intend to shoot.
Rule 3	Keep your finger straight and off the trigger until you are ready to fire.
Rule 4	Keep the weapon on safe until you intend to fire.

b. A weapon's readiness/safety is described by one of four conditions. The steps in the loading and unloading process take the rifle through four specific conditions of readiness for live fire.

CONDITION CODES	
Condition 1	Safety on, magazine inserted, round in chamber, bolt forward, ejection port cover closed.
Condition 2	Not applicable to the M16A2 rifle.
Condition 3	Safety on, magazine inserted, chamber empty, bolt forward, ejection port cover closed.
Condition 4	Safety on, magazine removed, chamber empty, bolt forward, ejection port cover closed.

c. Weapon commands dictate the specific conditions required to load and unload the rifle.

COMMANDS	
Load	Takes the weapon from condition 4 to condition 3.
Make Ready	Takes the weapon from condition 3 to condition 1.
Fire	Specifies when a Marine may engage targets.
Cease Fire	Specifies when a Marine must stop target engagement.
Unload	Takes the weapon from any condition to condition 4.
Unload Show Clear	When a second individual must check the weapon to verify that no ammunition is present before the rifle is placed in condition 4.

2. Prepare the leaf sight for zeroing.

a. For targets from 50 to 250 meters, raise the leaf sight and use with rifle front sight as shown in figure 1.

b. Place the center mark of the windage scale on the index line on the rear of the sight base.

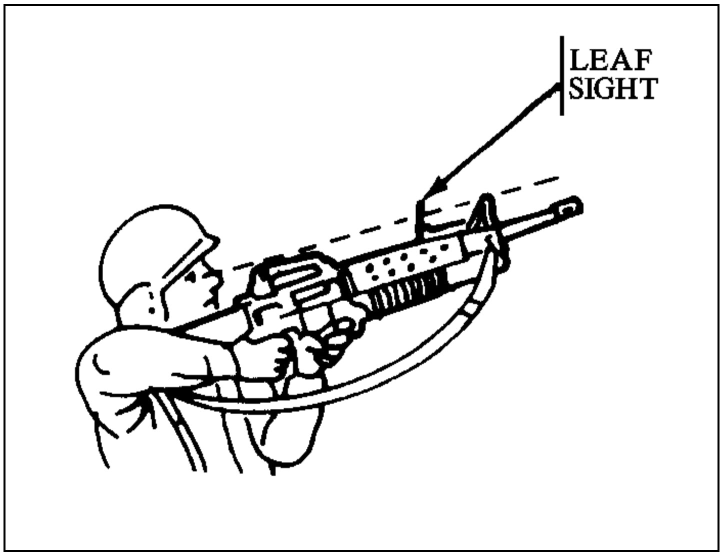


Figure 1

c. Loosen the elevation adjustment screw on the leaf sight, place the leaf sight's index line on the sight mount's center elevation mark.

d. Tighten the elevation screw.

3. Assume a supported prone firing position as shown in figure 2.

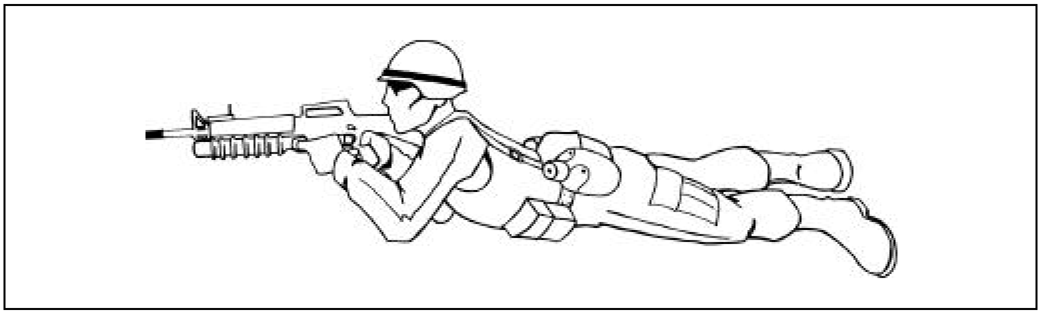


Figure 2

- There are two types of prone positions: straight-leg and cocked-leg. Both positions are steady, easy to assume, and present a low silhouette. These positions provide maximum body contact with the ground and maximum stability for firing. After assuming the prone position, Marines place as much body weight as possible behind the weapon. The angle of the body should not exceed 10 to 20 degrees to the right or left of the line of fire. If this position is used correctly, the weapon's recoil is absorbed by the whole body and not just the shoulder.

  (1) Perform the following steps to assume the straight-leg prone position.

    (a) Stand erect.

    (b) Face the target at an angle of not more than 20 degrees to the right of the line of fire.

    (c) Place your left hand under hand guard.

    (d) Spread feet approximately shoulder width apart.

(e) Lower into position by dropping to both knees.

(f) Lower upper body to ground using your right arm to break fall.

(g) Rotate your elbow into a position directly underneath the rifle.

NOTE: The key to the prone position is the full extension and bending of the arm at the elbow directly underneath the rifle.

(h) Grasp rifle butt with your right hand and place into the right shoulder pocket.

(i) Grasp pistol grip with your right hand.

(j) Rotate your body to the right and lower your right elbow to ground.

(k) Point feet outboard.

(l) Move your left hand to a location under the hand guard that provides maximum bone support and stability for the weapon.

(2) Perform the following steps to assume the cocked-leg prone position.

(a) Stand erect.

(b) Face the target at a 10 to 20 degree angle to the right of the line of fire.

(c) Place your left hand under hand guard.

(d) Spread feet approximately shoulder width apart.

(e) Lower into position by dropping to both knees.

(f) Lower upper body to ground using your right arm to break the fall.

(g) Rotate your elbow into a position directly underneath the rifle.

NOTE: The key to the prone position is the full extension and bending of the arm at the elbow directly underneath the rifle.

(h) Draw your right knee up not to exceed 45 degrees.

(i) Grasp rifle butt with your right hand and place into your shoulder pocket.

(j) Grasp pistol grip with your right hand.

(k) Rotate your body to the right and lower your elbow to the ground.

(l) Place cheek firmly against stock to obtain a firm stock weld.

(m) Point your right foot outboard and the left foot inboard.

(n) Move your hand to a location under the hand guard which provides maximum bone support and stability for the weapon.

4. *Load the M203 grenade launcher*.

a. Ensure the weapon is in condition 4.

- Chamber empty, action closed, and safety on

b. Keeping the muzzle pointed down range and clear of all personnel, depress barrel latch and push barrel assembly all the way forward as shown in figure 3.

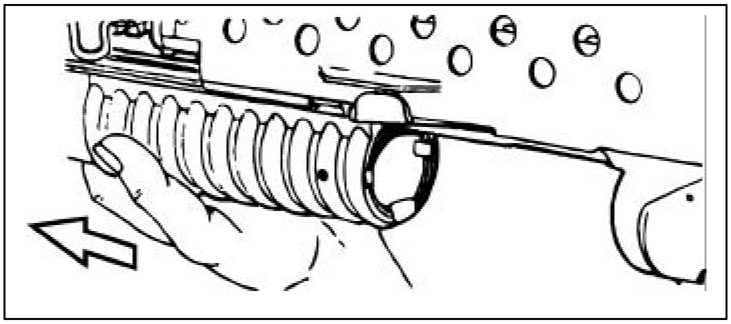


Figure 3

c. Before loading, make sure bore and chamber are clean and dry. Insert one round of 40mm HE or TP ammunition into chamber until fully seated as shown in figure 4.

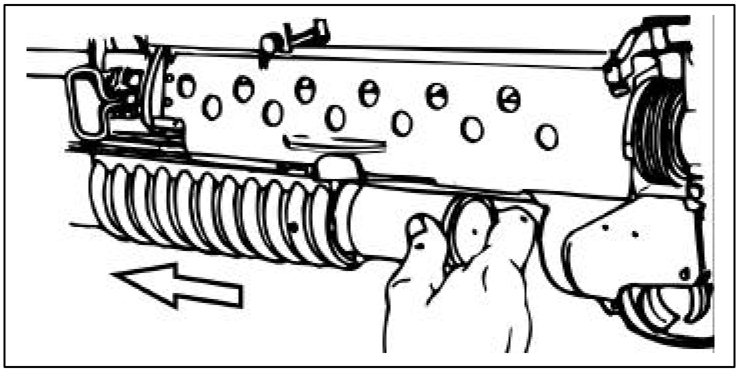


Figure 4

d. Pull barrel assembly to the rear until the barrel latch locks into position as shown in figure 5.

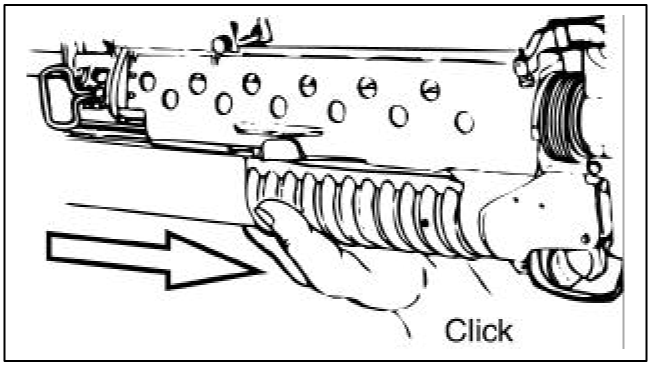


Figure 5

5. *Fire the M203 grenade launcher.*

a. Select a target at 200 meters 660 feet).

b. Move safety to fire position.

c. Aim and squeeze the trigger to fire.

- Apply the fundamentals of marksmanship and fire a three-shot group at the sustained rate of fire (12 to 15 rounds per minute). The fundamentals of marksmanship are aim, breath control, and trigger control. These fundamentals provide the foundation for all marksmanship principles and skills. For rifle fire to be effective, it must be accurate. A rifleman who merely sprays shots in the vicinity of the enemy produces little effect. The fundamentals of marksmanship, when applied correctly, form the basis for delivering accurate fire on enemy targets. These skills must be developed so they are applied instinctively. During combat, the fundamentals of marksmanship must be applied in a limited time frame, which corresponds to the size and the distance of the target. At longer ranges, the target is smaller and a more precise shot is required to accurately engage the target. The fundamentals are more critical to accurate engagement as the range to the target increases. To be accurate at longer ranges, the Marine must take the time to slow down and accurately apply the fundamentals. At shorter ranges, the enemy must be engaged quickly before it engages the Marine. As the size of the target increases, and the distance to the target decreases, the fundamentals, while still necessary, become less critical to accuracy. In combat, a Marine must apply proper aiming, breathing, and trigger control techniques without hesitation.

6. *Assess the impact of the round in relation to the target.*

- If the round does not fall within 5 meters (17 ft) of the target, as shown in figure 6, zero the weapon as explained in performance step 7.

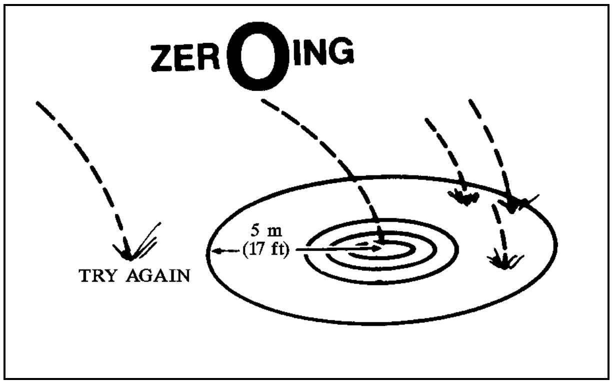


Figure 6

7. *Make necessary adjustments.*

a. Adjust leaf sight as shown in figure 7.

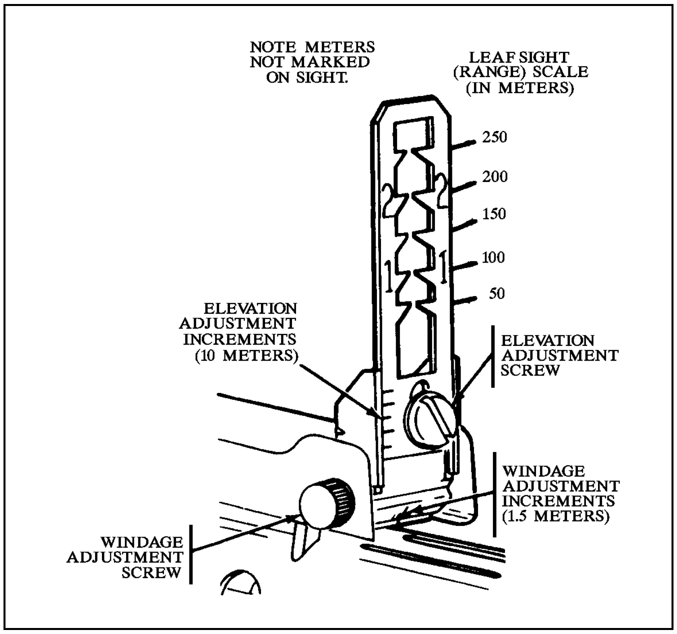

NOTE METERS NOT MARKED ON SIGHT.
LEAF SIGHT (RANGE) SCALE (IN METERS)
250
200
150
100
50
ELEVATION ADJUSTMENT INCREMENTS (10 METERS)
ELEVATION ADJUSTMENT SCREW
WINDAGE ADJUSTMENT INCREMENTS (1.5 METERS)
WINDAGE ADJUSTMENT SCREW

Figure 7

CAUTION: The 50-meter mark on the leaf sight blade is marked in red to emphasize that this range will not be used in zeroing procedures.

b. Loosen the elevation adjustment screw to move the leaf sight up to increase the range for a headwind. Lower it to decrease range for a rear wind.

c. Use the rim of a 40mm cartridge to turn the elevation adjustment screw.

NOTE: 1 increment = 10 meters (33 ft) at 200 meters

d. Turn windage adjustment screw clockwise to move the leaf sight to the left. Turn the windage adjustment screw counterclockwise to move the leaf sight to the right.

NOTE: 1 increment = 1.5 meters (5 ft) at 200 meters

8. Repeat steps 3 through 7 until three consecutive rounds impacts within 5 meters(17ft) of the target.

9. Record sight zero and store in the buttstock of the rifle.

REFERENCE(S):

FM 23-21, *40mm Grenade Launchers M203 and M79*

TASK: **MCCS.11.15 (CORE) ENGAGE TARGETS WITH THE M203 GRENADE LAUNCHER WITH THE LEAF SIGHT**

CONDITION: **GIVEN AN M16A2 SERVICE RIFLE WITH A MOUNTED M203 GRENADE LAUNCHER, AMMUNITION, AND TARGETS AT UNKNOWN DISTANCES FROM 90 TO 250 YARDS.**

STANDARD: **TO ACHIEVE IMPACT OF THREE OF FIVE ROUNDS FIRED WITHIN THE EFFECTIVE CASUALTY RADIUS OF THE GRENADE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided an M203 grenade launcher, all individual combat equipment (782 gear), and ammunition.

Standard: The Marine must handle the weapon safely at all times, select the correct ammunition, load, field zero the weapon, estimate range to target, and then effectively engage the target with the leaf sight. He must perform immediate action for a malfunction or a stoppage, perform a function check, and ensure the weapon is completely safe after firing.

PERFORMANCE STEPS:

1**.** *Handle the weapon safely***.**

a. Apply the following safety rules at all times to ensure that only the intended target is engaged.

SAFETY RULES	
Rule 1	Treat every weapon as if it were loaded.
Rule 2	Never point a weapon at anything you do not intend to shoot.
Rule 3	Keep your finger straight and off the trigger until you are ready to fire.
Rule 4	Keep the weapon on safe until you intend to fire.

b. A weapon's readiness/safety is described by one of four conditions. The steps in the loading and unloading process take the rifle through four specific conditions of readiness for live fire.

CONDITION CODES	
Condition 1	Safety on, magazine inserted, round in chamber, bolt forward, ejection port cover closed
Condition 2	Not applicable to the M16A2 rifle
Condition 3	Safety on, magazine inserted, chamber empty, bolt forward, ejection port cover closed
Condition 4	Safety on, magazine removed, chamber empty, bolt forward, ejection port cover closed

c. Weapon commands dictate the specific conditions required to load and unload the rifle.

COMMANDS	
Load	Takes the weapon from condition 4 to condition 3.
Make Ready	Takes the weapon from condition 3 to condition 1.
Fire	Specifies when a Marine may engage targets
Cease Fire	Specifies when a Marine must stop target engagement.
Unload	Takes the weapon from any condition to condition 4.
Unload Show Clear	Second individual checks the weapon to verify that no ammunition is present before the rifle is placed in condition 4.

2. *Apply the range to the sight.*

a. Range. Manipulate the sights to different range settings (quadrant sight--50 to 400 meters; leaf sight--50 to 250 meters). To learn to make fine adjustments for elevation, manipulate the sights from the minimum to the maximum setting. When you do not have time to adjust the sights, you may adjust the aiming point instead.

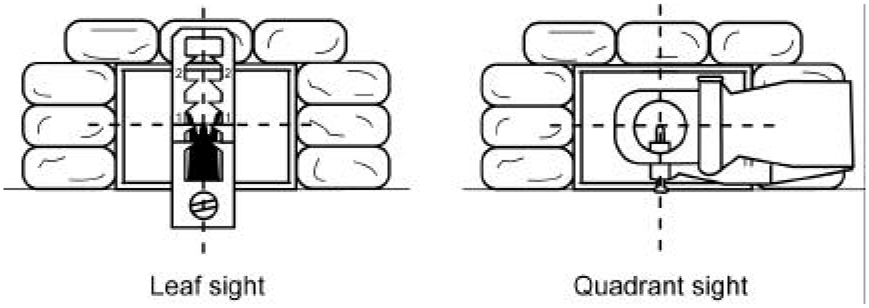
b. Aligning sight. When using the leaf sight, align it with the front sight post of the M16 (figure 1). Picture a horizontal line through the center of the leaf sight. The top of the M16's front sight post should touch this line. Picture a vertical line through the center of the leaf sight. This line should vertically dissect the front sight post.

c. For either sight, focus on the front sight post; a good firing position places your eye directly on line with the center of the leaf sight or rear sight aperture. Your eye's natural ability to center objects in a circle and seek the point of greatest light will help you align the sight correctly.

d. To achieve a correct sight picture, align the front sight post and leaf sight or rear sight aperture with the target. For area targets, aim where the round's bursting radius will make the round most effective. For point targets, aim at the target's center of mass.

e. The technique for breathing is the same for every position: Breathe naturally. Exhale most of your air, hold your breath, and fire before you become uncomfortable. In combat, just choke off your breath before firing.

f. The technique for trigger control is the same for every position. Place your trigger finger (the index finger of your left hand) between the first joint and the tip of your finger (not at the extreme end of your finger) on the trigger. Adjust for your hand size and grip. Then, squeeze your trigger finger to the rear without disturbing the lay of the weapon.



Leaf sight

Quadrant sight

Figure 1

3. *Assume a supported prone firing position as shown in figure 2.*

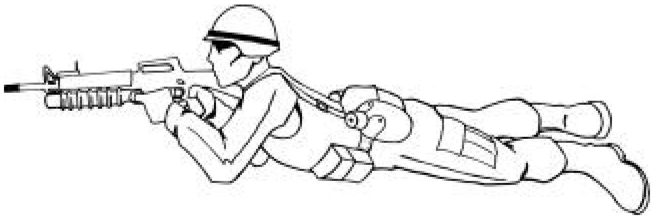


Figure 2

- There are two types of prone positions: straight-leg and cocked-leg. Both positions are steady, easy to assume, and present a low silhouette. These positions provide maximum body contact with the ground and maximum stability for firing. After assuming the prone position, Marines place as much body weight as possible behind the weapon. The angle of the body should not exceed 10 to 20 degrees to the right or left of the line of fire. If this position is used correctly, the weapon’s recoil is absorbed by the whole body and not just the shoulder.

  (1) Perform the following steps to assume the straight-leg prone position.

    (a) Stand erect.

    (b) Face the target at an angle of not more than 20 degrees to the right of the line of fire.

    (c) Place your left hand under hand guard.

    - (d) Spread feet approximately shoulder width apart.
    - (e) Lower into position by dropping to both knees.
    - (f) Lower upper body to ground using your right arm to break fall.
    - (g) Rotate your elbow into a position directly underneath the rifle.

NOTE: The key to the prone position is the full extension and bending of the arm at the elbow directly underneath the rifle.

    - (h) Grasp rifle butt with your right hand and place into the right shoulder pocket.
    - (i) Grasp pistol grip with your right hand.
    - (j) Rotate your body to the right and lower your right elbow to ground.
    - (k) Point feet outboard.
    - (l) Move your left hand to a location under the hand guard that provides maximum bone support and stability for the weapon.

(2) Perform the following steps to assume the cocked-leg prone position.

    - (a) Stand erect.
    - (b) Face the target at a 10- to 20-degree angle to the right of the line of fire.
    - (c) Place your left hand under hand guard.
    - (d) Spread feet approximately shoulder width apart.
    - (e) Lower into position by dropping to both knees.
    - (f) Lower upper body to ground using your right arm to break the fall.
    - (g) Rotate your elbow into a position directly underneath the rifle.

NOTE: The key to the prone position is the full extension and bending of the arm at the elbow directly underneath the rifle.

    - (h) Draw your right knee up not to exceed 45 degrees.
    - (i) Grasp rifle butt with your right hand and place into your shoulder pocket.
    - (j) Grasp pistol grip with your right hand.
    - (k) Rotate your body to the right and lower your elbow to the ground.
    - (l) Place cheek firmly against stock to obtain a firm stock weld.
    - (m) Point your right foot outboard and the left foot inboard.
    - (n) Move your hand to a location under the hand guard which provides maximum bone support and stability for the weapon.

4. *Load the M203 grenade launcher*.

a. Ensure the weapon is in condition 4.

- Chamber empty, action closed, and safety on

b. Keeping the muzzle pointed down range and clear of all personnel, depress barrel latch and push barrel assembly all the way forward as shown in figure 3.

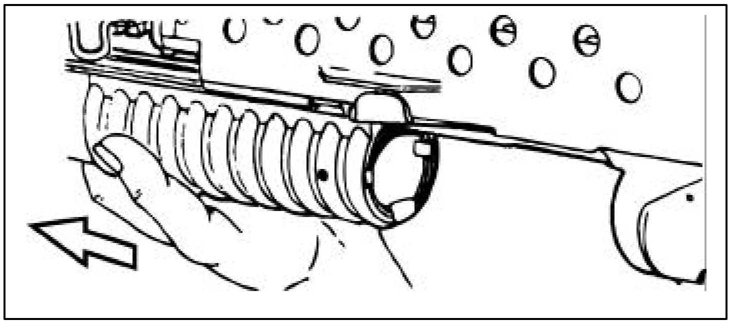


Figure 3

c. Before loading, make sure bore and chamber are clean and dry. Insert one round of 40mm HE or TP ammunition into chamber until fully seated as shown in figure 4.

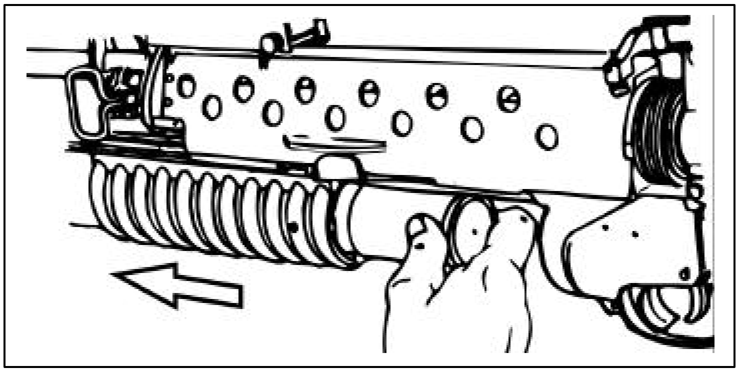


Figure 4

d. Pull barrel assembly to the rear until the barrel latch locks into position as shown in figure 5.

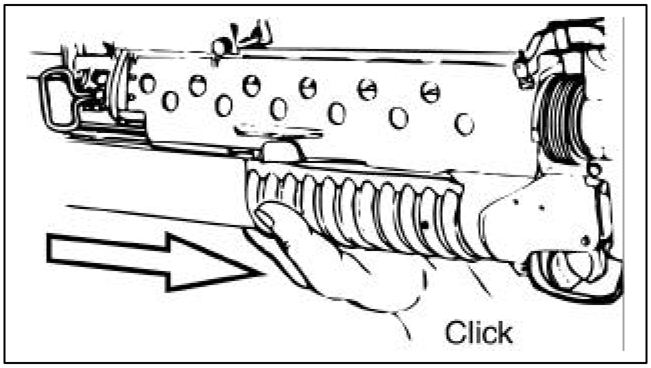


Figure 5

5. Engage targets.

a. Select targets at unknown distances from 90 to 250 yards.

b. Move safety to fire position.

c. Aim and squeeze the trigger to fire.

(1) Apply the fundamentals of marksmanship. The fundamentals of marksmanship are aim, breath control, and trigger control. These fundamentals provide the foundation for all marksmanship principles and skills. For rifle fire to be effective, it must be accurate. A rifleman who merely sprays shots in the vicinity of the enemy produces little effect. The fundamentals of marksmanship, when applied correctly, form the basis for delivering accurate fire on enemy targets. These skills must be developed so that they are applied instinctively. During combat, the fundamentals of marksmanship must be applied in a limited time frame, which corresponds to the size and the distance of the target. At longer ranges, the target is smaller and a more precise shot is required to accurately engage the target. The fundamentals are more critical to accurate engagement as the range to the target increases. To be accurate at longer ranges, the Marine must take the time to slow down and accurately apply the fundamentals. At shorter ranges, the enemy must be engaged quickly before it engages the Marine. As the size of the target increases, and the distance to the target decreases, the fundamentals, while still necessary, become less critical to accuracy. In combat, a Marine must apply proper aiming, breathing, and trigger control techniques without hesitation.

(2) A Marine must maintain the ability to react instinctively in a combat environment—day or night. He or she must possess a combat mindset that eliminates any hesitation, fear, or uncertainty of action; allows him to engage the enemy rapidly; and allows him or her to focus on the actions required to fire well-aimed shots. A Marine must remember that speed alone does not equate to effective target engagement. He or she should fire only as fast as he or she can fire accurately. He or she should never exceed his or her physical capability to engage a target effectively. To be effective in combat, a Marine must train to perfect the physical skills of target engagement (such as presenting the weapon and assuming a shooting position) until they become instinctive. In addition, a Marine must employ effective engagement techniques that enable the acquisition and engagement of a variety of targets in diverse combat conditions.

(3) To be proficient, a Marine rifleman must be able to detect targets, determine the range to targets, and accurately engage the targets. There are many variables affecting a Marine's ability to detect and determine the range to combat targets. An enemy rarely fails to use some type of cover or concealment when he or she is in the vicinity of Marine units. Enemy targets on the battlefield may be single or multiple, stationary or moving, or completely hidden from view. Success in locating an enemy target will depend upon the observer's position, his skill in searching an area, and his ability to recognize target indicators.

6. Search and assess the situation.

a. After a Marine engages a target, he or she must immediately search the area and assess the results of his or her engagement. Searching and assessing enables the Marine to avoid tunnel vision that can restrict the focus so that an indication of other targets is overlooked.

b. The Marine searches the area for additional targets or for cover. The Marine assesses the situation to determine if he or she needs to reengage a target, engage a new target, take cover, assume a more stable position, cease engagement, etc.

c. Search the area and assess the situation or threat by moving the head, eyes, and rifle left and right to cover the immediate area. The muzzle moves with the head and eyes in one fluid motion while searching. Keep both eyes open to increase the field of view.

d. Once a Marine determines the area is clear of enemy threat, he places the rifle on safe.

REFERENCE(S):

MCRP 3-01A, *Rifle Marksmanship*
FM 23-31, *40mm Grenade Launchers M203 and M79*

TASK: **MCCS.11.16 (CORE) PERFORM WEAPONS HANDLING WITH THE M249 SAW**

CONDITION: **GIVEN A M249 SAW AND DUMMY AMMUNITION.**

STANDARD: **TO ACHIEVE THE PERFORMANCE STEPS WITHOUT VIOLATING THE FOUR SAFTY RULES PER THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a M249 SAW and dummy ammunition.

Standard: The Marine must handle the weapon safely at all times without violating the four safety rules while performing a five-point safety check, execution of firing commands, and application of immediate and remedial action per the references.

PERFORMANCE STEPS:

1. *Handle the weapon safely.*

a. Apply the following safety rules at all times to ensure that only the intended target is engaged.

SAFETY RULES	
Rule 1	Treat every weapon as if it were loaded.
Rule 2	Never point a weapon at anything you do not intend to shoot.
Rule 3	Keep your finger straight and off the trigger until you are ready to fire.
Rule 4	Keep the weapon on safe until you intend to fire.

b. A weapon's readiness/safety status is described by one of four conditions contained in performance step 4.

2. *Demonstrate a five-point safety check.*

- Raise the cover on the feed mechanism assembly and conduct the five-point safety check for brass, links, or ammunition.

(1) Check the feed pawl assembly under the feed cover.

(2) Check the feed tray assembly.

(3) Lift the feed tray assembly and inspect the chamber.

(4) Check the space between the bolt assembly and the chamber.

(5) Insert two fingers of the left hand in the magazine well to extract any ammunition or brass.

3. *Demonstrate the four safety rules.*

- Follow the four safety rules described in step 1.

4. *Demonstrate the applicable weapons conditions codes.*

- The steps in the loading and unloading process take the rifle through four specific conditions of readiness for live fire.

CONDITION CODES	
Condition 1	The bolt is locked to the rear. The safety is on. The source of ammunition is in position on the feed tray or in the magazine well. The cover is closed.
Condition 2	Not applicable.
Condition 3	The bolt is forward. The chamber is empty. The safety is off. The source of ammunition is in position on the feed tray or in the magazine well. The cover is closed.
Condition 4	The bolt is forward. The safety is off. The feed tray is clear of ammunition and/or no magazine is inserted. The cover is closed.

5. *Execute the six firing commands.*

a. Load: This command is used to place the M249 in condition 3.

  (1) Execute LOAD using the belt-fed technique.

    (a) Ensure the weapon is in condition 4.

    (b) Open the feed tray cover.

    (c) Place the first round of the belt in the feed tray groove with the open side of the link down.

    (d) Close the feed tray cover.

  (2) Execute LOAD using the magazine-fed technique.

    (a) Ensure the weapon is in condition 4.

    (b) Withdraw the magazine from the magazine pouch.

    (c) Ensure the magazine is filled with rounds.

    (d) Fully insert the magazine into the magazine well.

    (e) Tug downward on the magazine to ensure that it is held in the weapon by the magazine catch.

    (f) Close the magazine pouch.

b. Make Ready: This command is used to place the M249 in condition 1.

  (1) Take the weapon off SAFE.

  (2) Pull the cocking handle fully to the rear.

  (3) Push the cocking handle fully forward to the locked position.

  (4) Place the weapon on SAFE.

c. Fire: This command is used to specify when a Marine may engage targets.

  (1) Take the weapon off safe and place your finger on the trigger.

  (2) Engage target.

d. Cease Fire: This command is used to specify when a Marine must stop target engagement.

  (1) Stop firing at target.

  (2) Remove your finger from the trigger and place weapon on safe.

e. Unload: This command is used to place the M249 in condition 4.

  (1) Execute UNLOAD using the belt-fed technique.

    (a) Take the weapon off SAFE.

    (b) Pull the cocking handle to the rear.

    (c) Put the weapon on SAFE.

    (d) Open the feed tray cover.

    (e) Remove all ammunition and belt links.

    (f) Lift the feed tray and inspect the chamber to ensure that no ammunition is present.

    - (g) Close the feed tray cover.
    - (h) Take the weapon off safe.
    - (i) While holding the cocking handle to the rear, pull the trigger and ease the bolt forward to the closed position.

  - (2) Execute UNLOAD using the magazine-fed technique.
    - (a) Take the weapon off SAFE.
    - (b) Remove the magazine from the weapon and retain it on your person.
    - (c) Pull the cocking handle to the rear.
    - (d) Put the weapon on SAFE.
    - (e) Open the feed tray cover.
    - (f) Lift the feed tray and inspect the chamber to ensure that no ammunition is present.
    - (g) Close the feed tray cover.
    - (h) Take the weapon off SAFE.
    - (i) While holding the cocking handle to the rear, pull the trigger and ease the bolt forward to the closed position.

f. Unload, Show Clear: This command is used when a second individual must check the weapon to verify that no ammunition is present before the rifle is placed in condition 4.

  - (1) Execute UNLOAD using the belt-fed technique.
    - (a) Take the weapon off SAFE.
    - (b) Pull the cocking handle to the rear.
    - (c) Put the weapon on SAFE.
    - (d) Open the feed tray cover.
    - (e) Remove all ammunition and belt links.
    - (f) Lift the feed tray and inspect the chamber to ensure that no ammunition is present.
    - (g) Have a second individual inspect the chamber to ensure that no ammunition is present.
    - (h) Close the feed tray cover.
    - (i) Take the weapon off SAFE.
    - (j) While holding the cocking handle to the rear, pull the trigger and ease the bolt forward to the closed position.

(2) Execute UNLOAD using the magazine-fed technique.

  (a) Take the weapon off SAFE.

  (b) Remove the magazine from the weapon and retain it on your person.

  (c) Pull the cocking handle to the rear.

  (d) Put the weapon on SAFE.

  (e) Open the feed tray cover.

  (f) Lift the feed tray and inspect the chamber to ensure that no ammunition is present.

  (g) Have a second individual inspect the chamber to ensure that no ammunition is present.

  (h) Close the feed tray cover.

  (i) Take the weapon off SAFE.

  (j) While holding the cocking handle to the rear, pull the trigger and ease the bolt forward to the closed position.

6. *Demonstrate the bipod firing position.*

a. Ensure the M249 is properly assembled and functioning for firing.

b. Set up bipod.

c. Hold legs together and pull them down from the handguard.

d. Release the legs so that they lock into the vertical position.

e. To extend bipod legs, push in on the latches and slide legs out.

f. Assume a prone position to the rear of the weapon and place the shoulder rest on your firing shoulder. An imaginary line drawn through the weapon should bisect the firing shoulder and buttock and continue through the heel of your foot.

g. Spread your legs a comfortable distance apart with your heels as close to the ground as possible and yet still be comfortable.

h. Grasp the pistol grip with your firing hand with the fleshy end of the index finger resting lightly on the trigger.

i. Place your nonfiring hand on the small of the stock with your thumb curled underneath.

j. Slide your nonfiring hand forward until your little finger touches the receiver, so your aiming point will always be the same.

k. Place your cheek against the forefinger of your nonfiring hand to form a stock weld. Try to position your nonfiring hand and cheek at the same spot on the stock each time you fire the weapon. The stock weld should provide for a natural line of sight through the center of the rear sight aperture to the front sight post and to the target.

l. Relax your neck so that your cheek rests on your forefinger naturally.

m. Apply a firm, steady pressure rearward and down, holding the weapon tightly into the hollow of your shoulder while aiming and firing.

n. Keep your shoulders level and elbows about an equal distance from the receiver of the weapon.

NOTE: The M249 ejects expended brass and links at a 90-degree angle to the RIGHT and downward from the weapon. Left-handed firers should roll their sleeves down to avoid the brass.

7. Apply immediate action.

a. Immediate action is the action taken to correct a stoppage without investigating its cause and quickly returning the weapon to action. Hang fire and cook off are two terms used to describe ammunition condition in conjunction with immediate action procedures.

(1) A hang fire occurs when the cartridge primer has detonated after being struck by the firing pin but some problem with the propellant powder causes it to burn too slowly and this delays the firing of the projectile.

(2) A cook off occurs when the heat of the barrel is high enough to cause the propellant powder inside the round to ignite even though the primer has not been struck.

WARNING: If a round is not ejected and the barrel is hot (200 rounds fired in a 2-minute period), **DO NOT** open the feed tray cover. Put the weapon on safe and allow 15 minutes for cooling. After 15 minutes, unload the weapon.

b. The immediate action procedures for the SAW are:

(1) Wait 5 seconds after the misfire to guard against a hang fire.

(2) Within the next 5 seconds (to guard against a cook off) pull and lock the cocking handle to the rear while observing the ejection port to see if a cartridge case, belt link, or round is ejected.

(3) Ensure the bolt remains to the rear to prevent double feeding if a round or cartridge case is not ejected.

(4) If a cartridge case, belt link, or around is ejected, push the cocking handle to its forward position, take aim on the target, and press the trigger.

(a) If the weapon does not fire, take remedial action.

(b) If a cartridge case, belt link, or round is not ejected, take remedial action.

NOTE: During combat, the pace of the battle will dictate how long you will be able to wait until attempts are made to clear the round.

8. Apply remedial action.

a. Remedial action is any action taken to determine the cause of a stoppage and to restore the weapon to an operational condition.

b. This action is taken only after immediate action did not remedy the problem.

c. Cold Weapon Procedures. When a stoppage occurs with a cold weapon and immediate action has failed, use the following procedures:

(1) While the weapon is on the shoulder, grasp the cocking handle with the right hand, palm up, and pull the cocking handle to the rear locking the bolt.

(2) While holding the resistance on the cocking handle, move the safety to SAFE and return the cocking handle forward.

(3) Place the weapon on the ground or away from the face, open the feed cover, and perform the five-point safety check in outlined in performance step 2.

(4) Reload and continue to fire.

(5) If the weapon does not fire, clear the weapon and inspect it and the ammunition.

d. Hot Weapon Procedures. If the stoppage occurs with a hot weapon (200 or more rounds in 2 minutes or less), move the safety to SAFE, let the weapon cool for 15 minutes, and use the same procedures as outlined for cold weapon procedures.

REFERENCE(S):

FM 23-14, *Squad Automatic Weapon, M249*
MCWP 3-15.1, *Machinegun and Machinegun Gunnery*

AMMUNITION:

DODIC	NOMENCLATURE	INITIAL PROFICIENCY	PER ITERATION	ANNUAL SUSTAINMENT
A060	CTG 5.56MM, DUMMY	10.000 EA	10.000 EA	10.000 EA
	Dummy ammunition is considered non-expendable.			

TASK: **MCCS.11.17 (CORE) MAINTAIN THE M249 SAW**

CONDITION: **GIVEN AN SL-3 COMPLETE M249 SAW.**

STANDARD: **PER THE TECHNICAL MANUAL.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Conditions: The Marine is provided an M249 SAW and appropriate cleaning equipment.

Standard: The Marine must handle the weapon safely at all times. The Marine must disassemble the weapon, inspect, clean, lubricate, and reassemble the weapon. The Marine must perform preventive maintenance and function checks.

Administrative Note: See SECTION: WEAPONS HANDLING

PERFORMANCE STEPS:

1. *Handle the weapon safely.*

a. Apply the following safety rules at all times to ensure that only the intended target is engaged.

SAFETY RULES	
Rule 1:	Treat every weapon as if it were loaded.
Rule 2:	Never point a weapon at anything you do not intend to shoot.
Rule 3:	Keep your finger straight and off the trigger until you are ready to fire.
Rule 4:	Keep the weapon on safe until you intend to fire.

b. A weapon’s readiness/safety is described by one of four conditions. The steps in the loading and unloading process take the rifle through four specific conditions of readiness for live fire.

CONDITION CODES	
Condition 1	The bolt is locked to the rear. The safety is on. The source of ammunition is in position on the feed tray or in the magazine well. The cover is closed.
Condition 2	Not applicable.
Condition 3	The bolt is forward. The chamber is empty. The safety is off. The source of ammunition is in position on the feed tray or in the magazine well. The cover is closed.
Condition 4	The bolt is forward. The safety is off. The feed tray is clear of ammunition and/or no magazine is inserted. The cover is closed.

c. Place the weapon in condition 4.

(1) Clear the weapon using the belt-fed technique.

(a) Take the weapon off SAFE.

(b) Pull the cocking handle to the rear.

(c) Put the weapon on SAFE.

(d) Open the feed tray cover.

(e) Remove all ammunition and belt links.

(f) Lift the feed tray and inspect the chamber to ensure that no ammunition is present.

(g) Close the feed tray cover.

(h) Take the weapon off SAFE.

(i) While holding the cocking handle to the rear, pull the trigger and ease the bolt forward to the closed position.

(2) Clear the weapon using the magazine-fed technique.

(a) Take the weapon off SAFE.

(b) Remove the magazine from the weapon and retain it on your person.

(c) Pull the cocking handle to the rear.

(d) Put the weapon on SAFE.

(e) Open the feed tray cover.

(f) Lift the feed tray and inspect the chamber to ensure that no ammunition is present.

(g) Close the feed tray cover.

(h) Take the weapon off SAFE.

(i) While holding the cocking handle to the rear, pull the trigger and ease the bolt forward to the closed position.

2. *Demonstrate a five-point safety check.*

a. Raise the cover on the feed mechanism assembly and conduct the five-point safety check for brass, links, or ammunition.

b. Check the feed pawl assembly under the feed cover.

c. Check the feed tray assembly.

d. Lift the feed tray assembly and inspect the chamber.

e. Check the space between the bolt assembly and the chamber.

f. Insert two fingers of the left hand in the magazine well to extract any ammunition or brass.

3. *Disassemble the M249 SAW.*

WARNING: DO NOT INTERCHANGE BARREL ASSEMBLIES OR BOLT ASSEMBLIES FROM ONE MACHINEGUN TO ANOTHER WITHOUT HAVING THE HEADSPACE CHECKED. DOING SO MAY RESULT IN INJURY TO PERSONNEL OR DAMAGE TO WEAPON.

a. Raise cover assembly. Pull the upper retaining pin at the rear of the receiver to the left. Let the buttstock and buffer assembly pivot downward so that the rear opening on the receiver is completely free (figure 1).

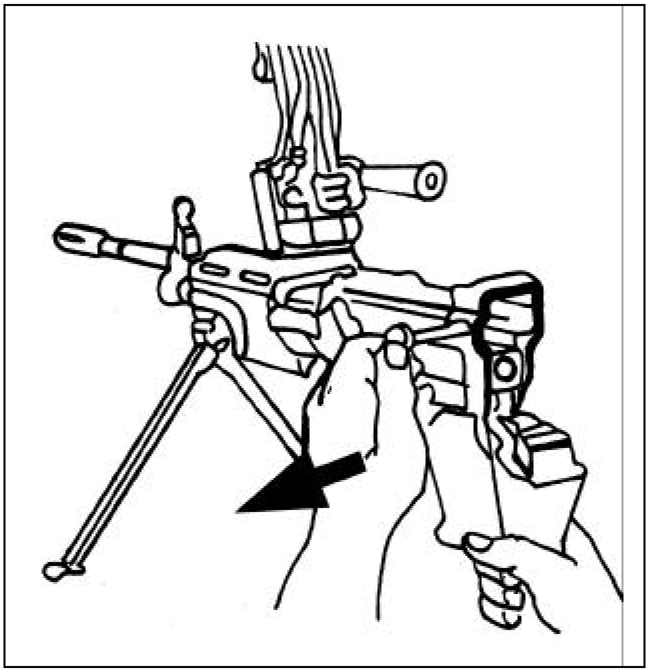


Figure 1

b. Hold the weapon with one hand on the buttstock. Simultaneously push in and upward on the rear end of the return rod and transfer mechanism assembly with the thumb of your other hand. The return rod and transfer mechanism assembly is now released from the positioning groove inside the receiver. Withdraw the return rod and transfer mechanism assembly and spring (figure 2).

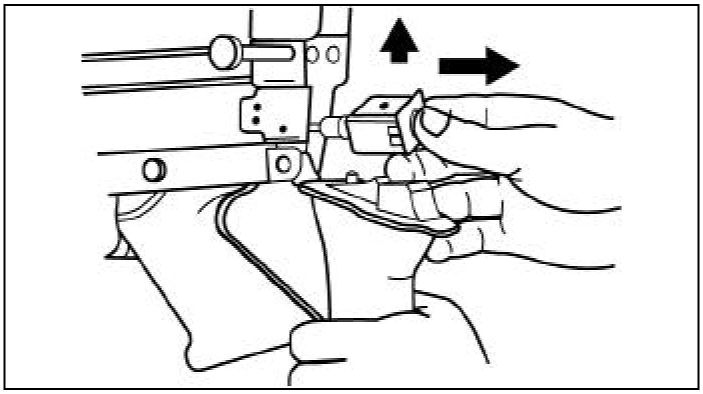


Figure 2

c. Separate the spring from the return rod and transfer mechanism assembly (figure 3).

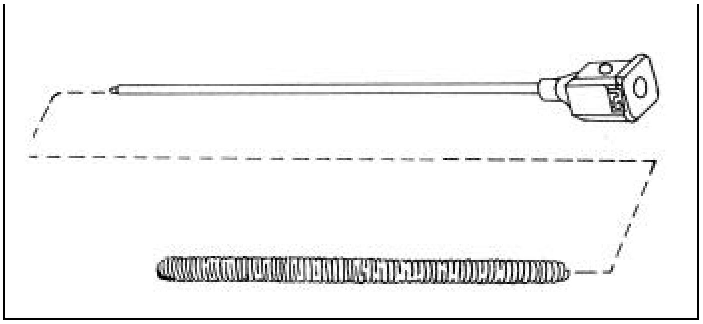


Figure 3

d. Pull the cocking handle rearward. Slide the moving parts out of the receiver (figure 4).

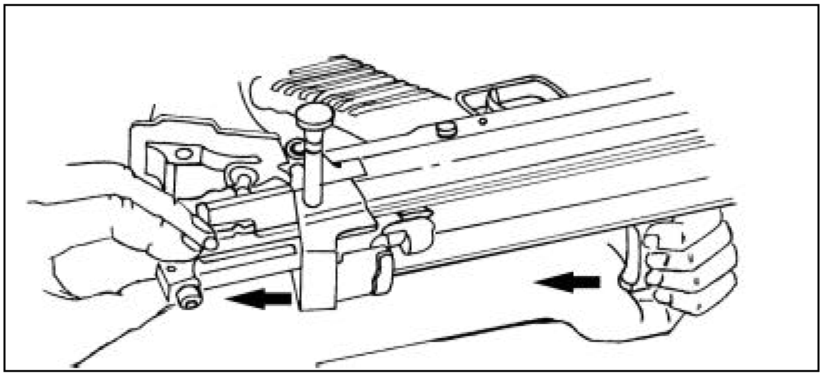


Figure 4

e. Rotate the bolt clockwise to disengage the lug and pull it out of the slide assembly (figure 5).

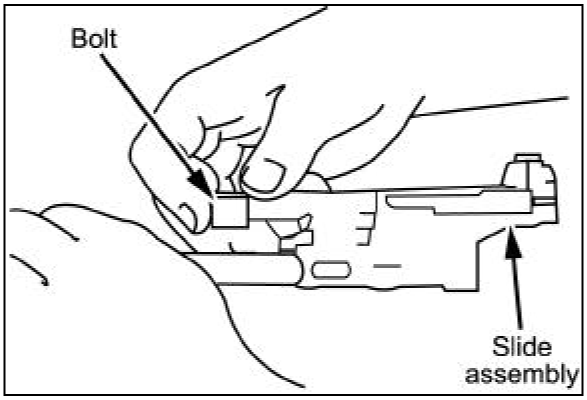


Figure 5

f. To separate the slide assembly from the piston assembly, press the retaining pin to the left, using a cleaning rod section, and lift off the slide assembly (figure 6).

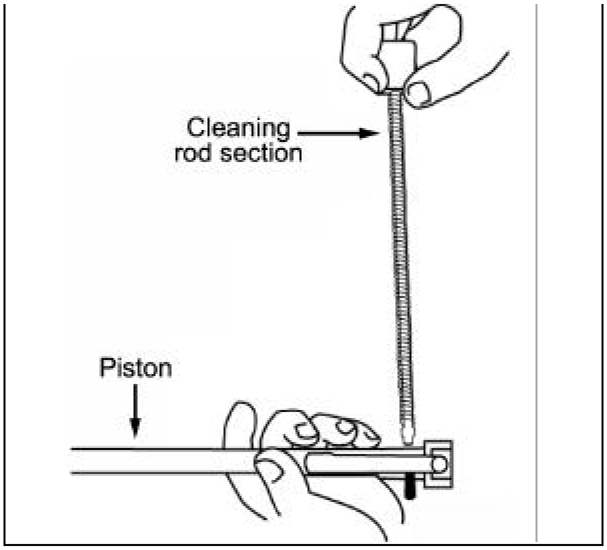


Figure 6

g. While holding the weapon, grasp the heatshield just forward of the barrel handle and lift it off the barrel (figure 7).

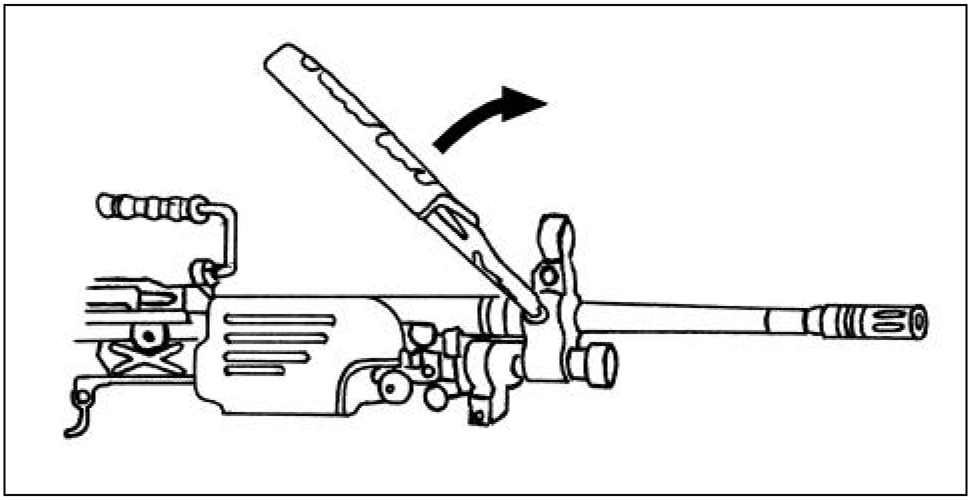


Figure 7

h. Close the cover. Ensure folding handle on the new style barrel is in the carrying (up) position. Depress the locking lever of the barrel with the left hand. Holding the carrying handle with the right hand, lift it up and push the barrel forward (figure 8).

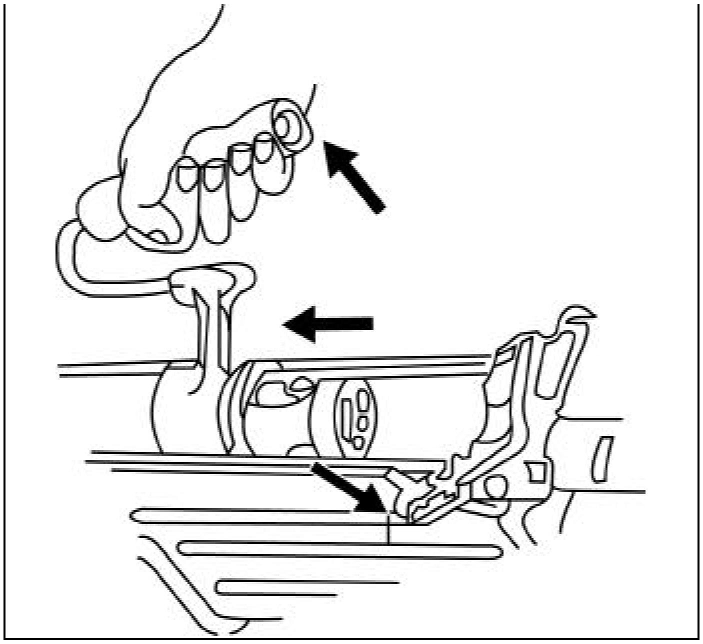


Figure 8

i. Push the handguard retaining pin to the left using a cleaning rod section, then remove the handguard downward (figure 9).

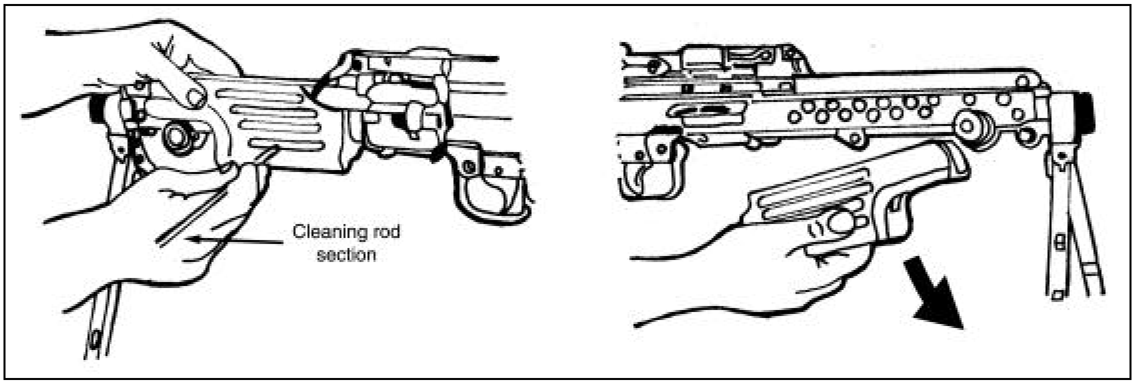


Figure 9

j. Position the gas collar to allow the scraper assembly to be installed. Place the tip (guide) of the scraper assembly into the notch in the front left of the gas block and hold the guide in the notch (figure 10).

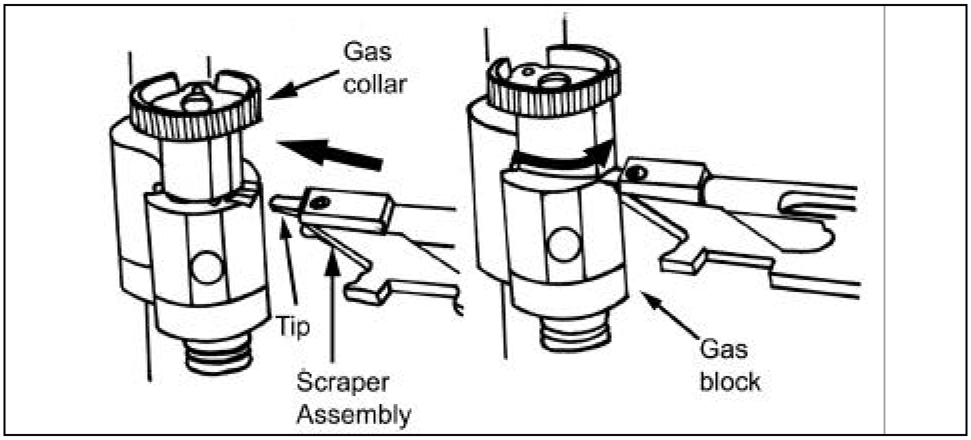


Figure 10

k. Holding the scraper assembly in position, turn the collar counterclockwise until the collar can be removed (figure 11).

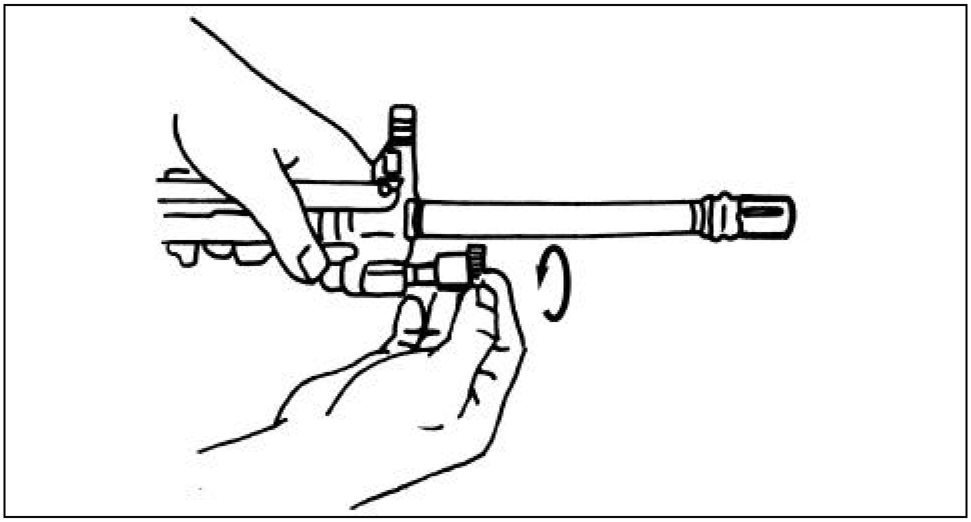


Figure 11

l. Remove the gas regulator from the gas block (figure 12).

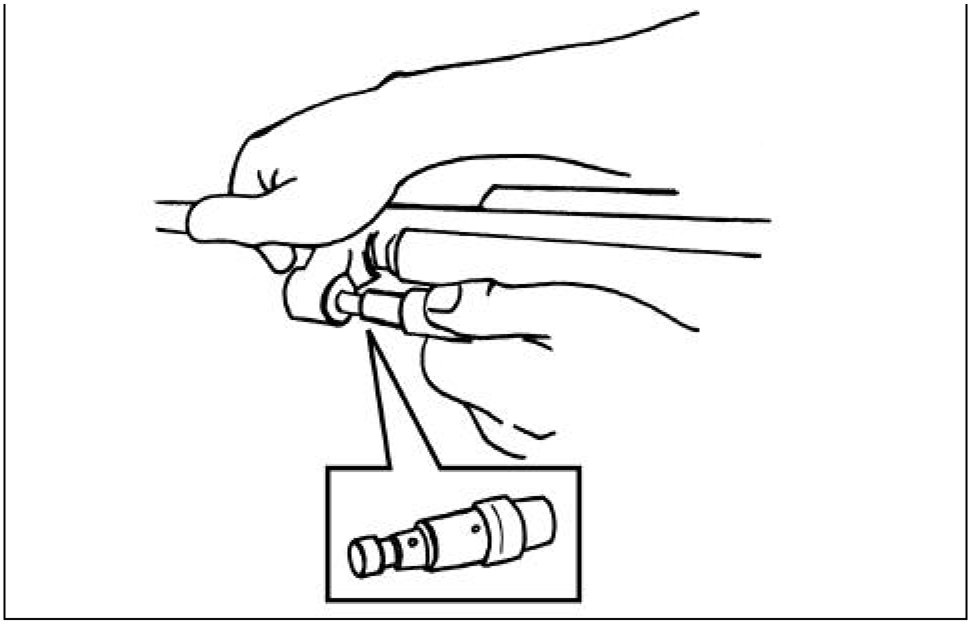


Figure 12

m. Using a cleaning rod section, push the lowermost retaining pin to the left. Remove the buttstock and buffer assembly by pulling it rearward while supporting the trigger mechanism (figure 13).

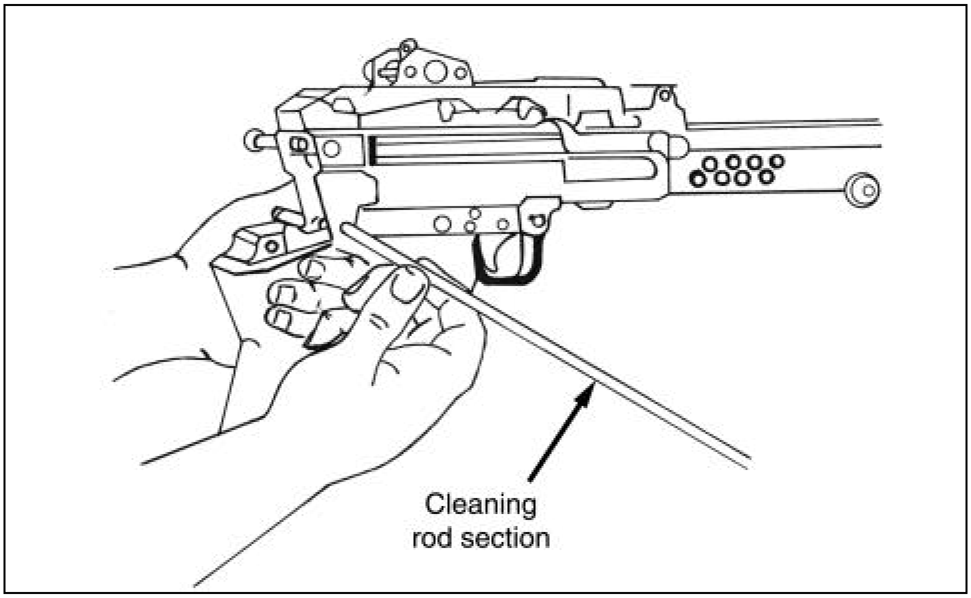


Figure 23

WARNING: Never remove the trigger mechanism before the weapon is cleared. Removal of the trigger mechanism from a loaded weapon will cause a runaway.

n. Remove the trigger mechanism rearward and down (figure 14).

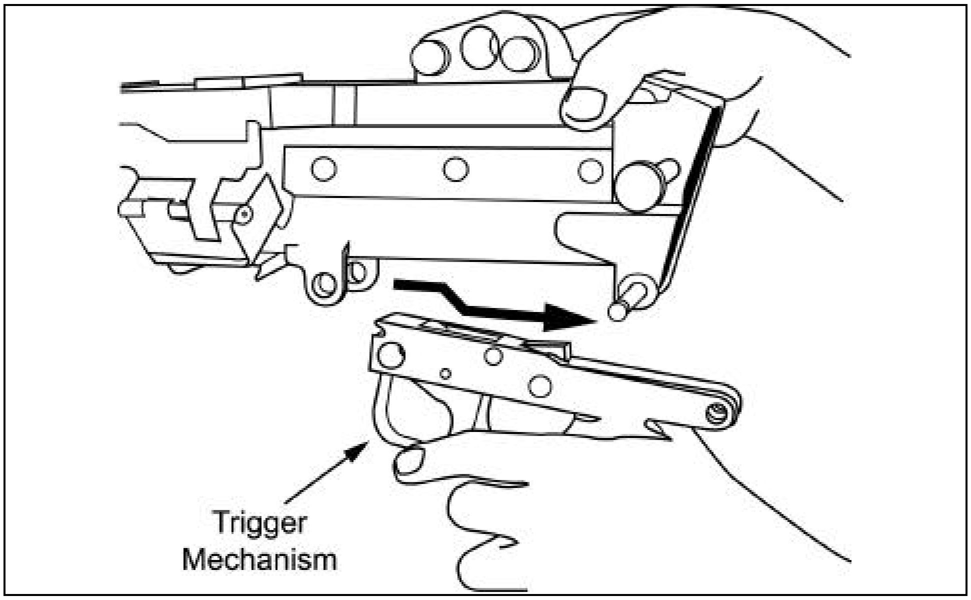


Figure 14

o. Turn the gas cylinder to the left or right to release the locking spring, then pull out (figure 15).

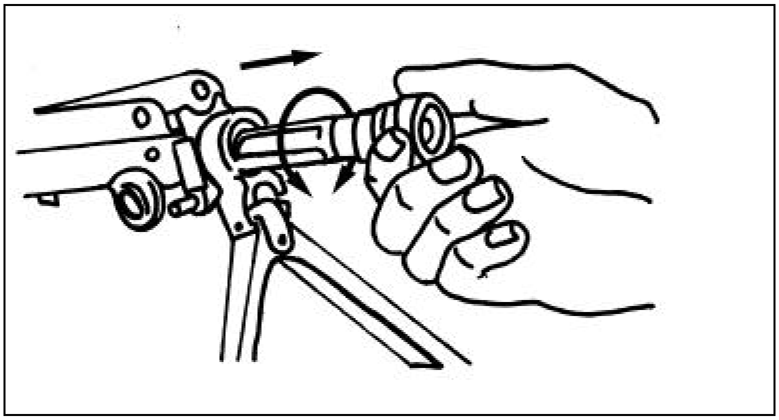


Figure 15

p. After removing the gas cylinder, separate the bipod from the receiver (figure 16).

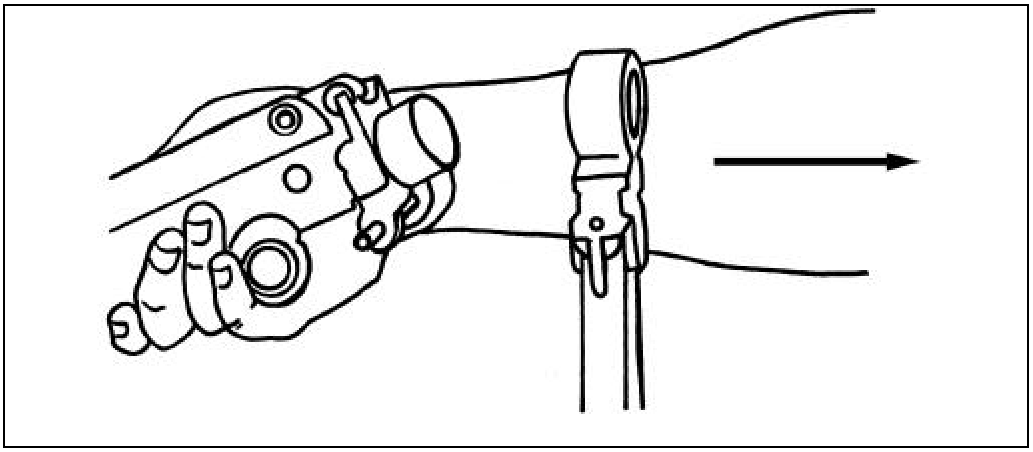


Figure 16

4. *Clean the weapon.*

WARNING: Using gasoline, kerosene, hydraulic oil, benzene, bensol, high-pressure water, steam, or compressed air for cleaning is prohibited.

CAUTION: Do not use abrasives to clean the bore, piston, gas cylinder, or gas regulator plug.

a. Clean all areas free of dirt, oil, carbon, and corrosion.

b. Wipe the outside of the barrel with a lightly lubricated rag. If heavy carbon deposits are present in the bore and/or chamber, clean with the bore and chamber brush (figure 17).

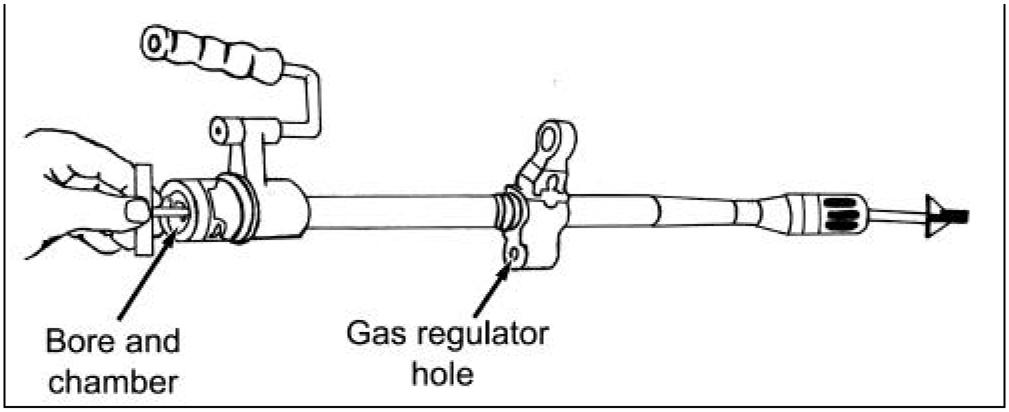


Figure 17

CAUTION: Do not lubricate the gas regulator hole in the barrel, or the gas regulator. Do not use abrasives to clean the gas regulator, bore, and chamber.

c. Clean and check bipod legs for operation; lightly lubricate (figure 18; CLP (cleaner, lubricant, and preservative)).

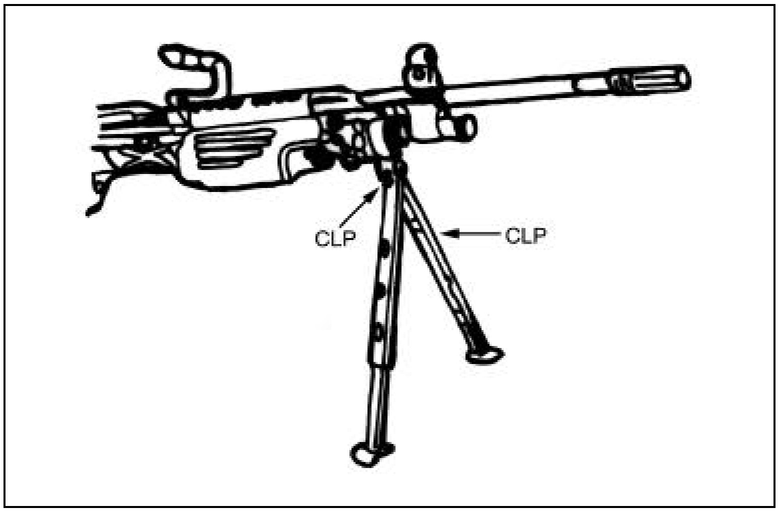


Figure 18

d. Clean and check the rear sight assembly elevation and windage knobs for proper functioning (figure 19).

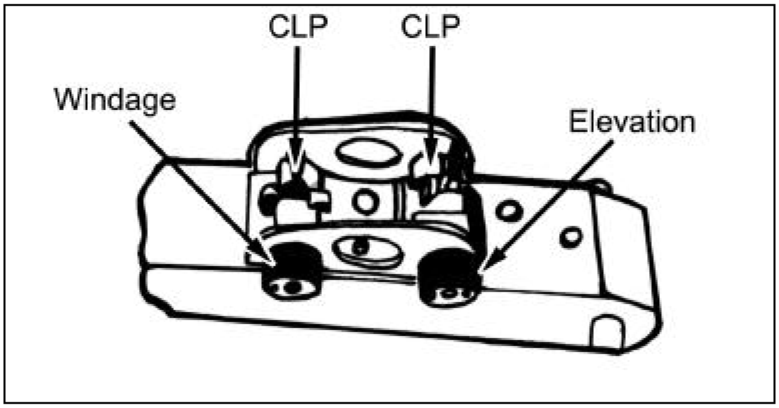


Figure 19

e. The regulator must be cleaned with the special tool (scraper). Clean the gas vent hole of the regulator body (figure 20).

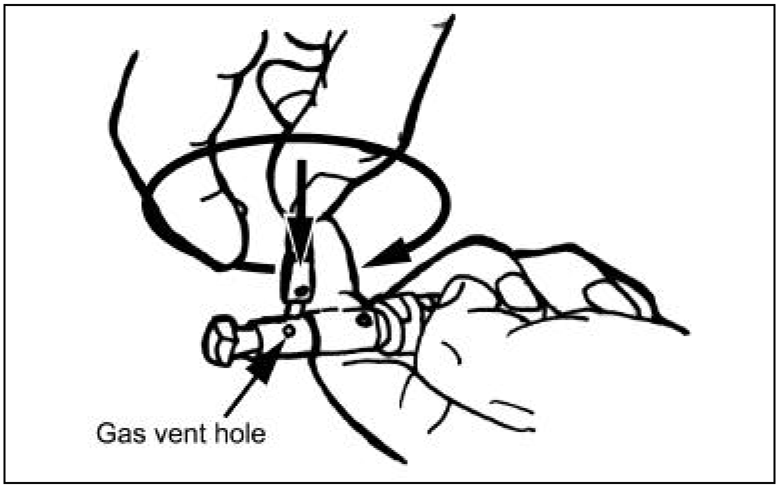


Figure 20

f. Clean the central hole of the regulator with the appropriate part of the scraper by turning it clockwise and pushing it inward to the bottom of the housing (figure 21).

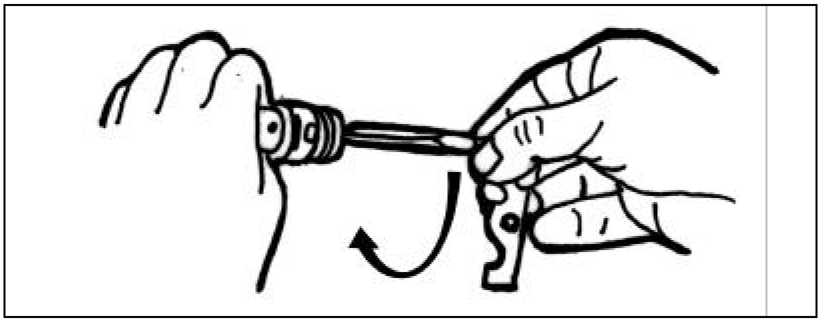


Figure 21

g. Use the protruding tips of the scraper to clean the two grooves of the regulator body (figure 22).

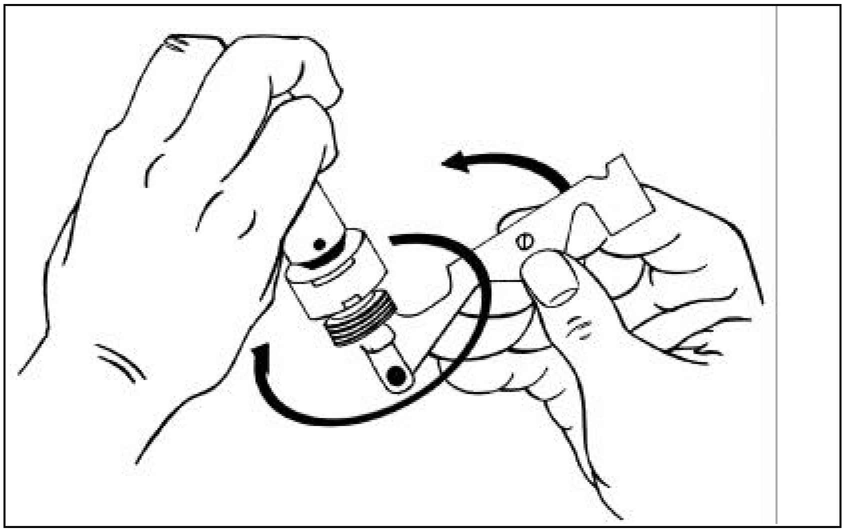


Figure 22

h. Clean the front of the gas cylinder (internal diameter) by inserting and turning the flat side of the scraper in the hole (figure 23).

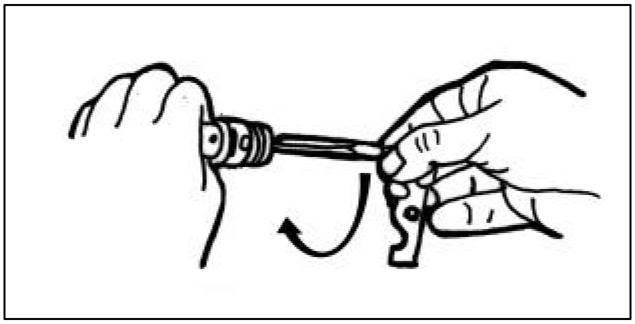


Figure 23

i. Clean the three grooves on the piston with the scraper tool (figure 24).

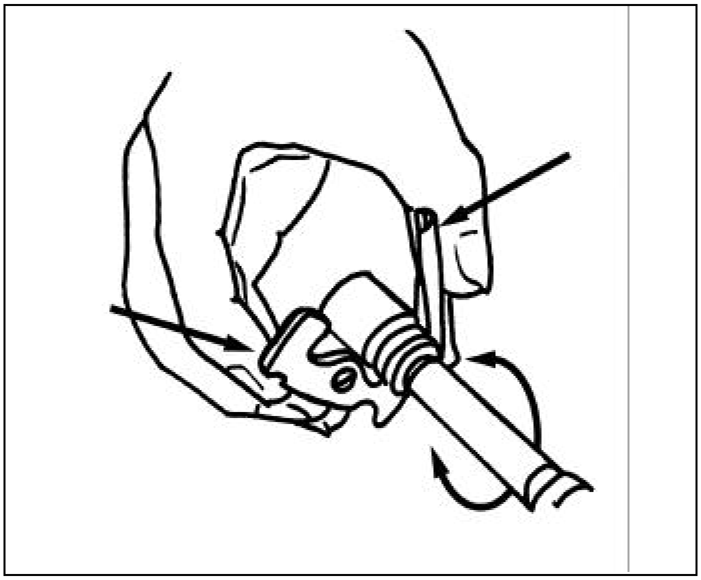


Figure 24

j. Clean the hole on the front of the piston with the same part of the scraper that was used on the front hole of the gas cylinder (figure 25).

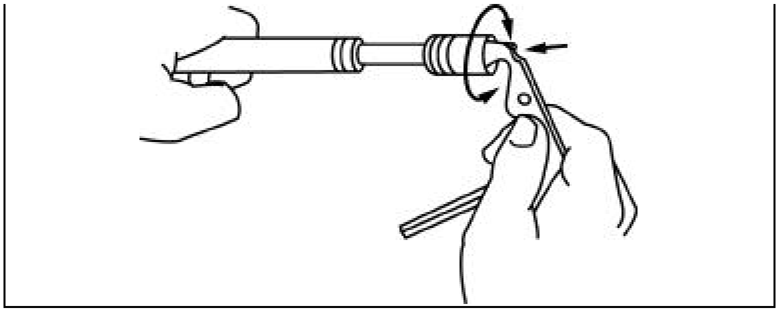


Figure 25

5. *Inspect the weapon.*

a. Inspect the bore and chamber.

b. Inspect for cracks, dents, burrs, or other damage on the compensator, barrel extension, and barrel release lever. Check the front sight for looseness.

c. Check the cover assembly for smooth operation, spring tension, bent parts, or excessive wear.

d. Check for bends and cracks, free movement of cocking assembly, and excessively worn, burred, or chipped rails. Check the barrel-locking latch and cover detent springs for spring tension (figure 26).

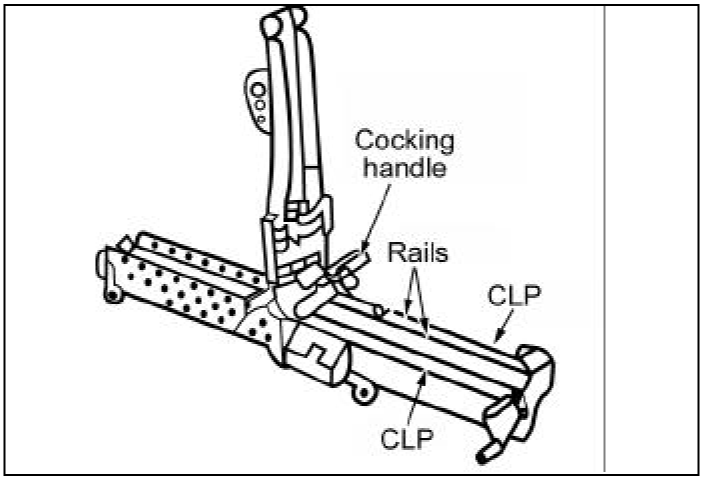


Figure 26

e. Inspect and clean the pistol grip assembly (figure 27).

(1) Check for a broken pistol grip, and for a chipped or cracked trigger housing holding lug.

(2) Check the tripping lever and sear for burrs, cracks, chips, and wear.

(3) Check the cocking action. Push back on the tripping lever and sear will rise. Pull trigger and sear will lower. Push back on the tripping lever.

(4) Check the safety function. When safety is pushed to the right (RED BAND not visible), pull the trigger and sear will not lower. When safety is pushed to the left (RED BAND visible), pull the trigger and sear will lower.

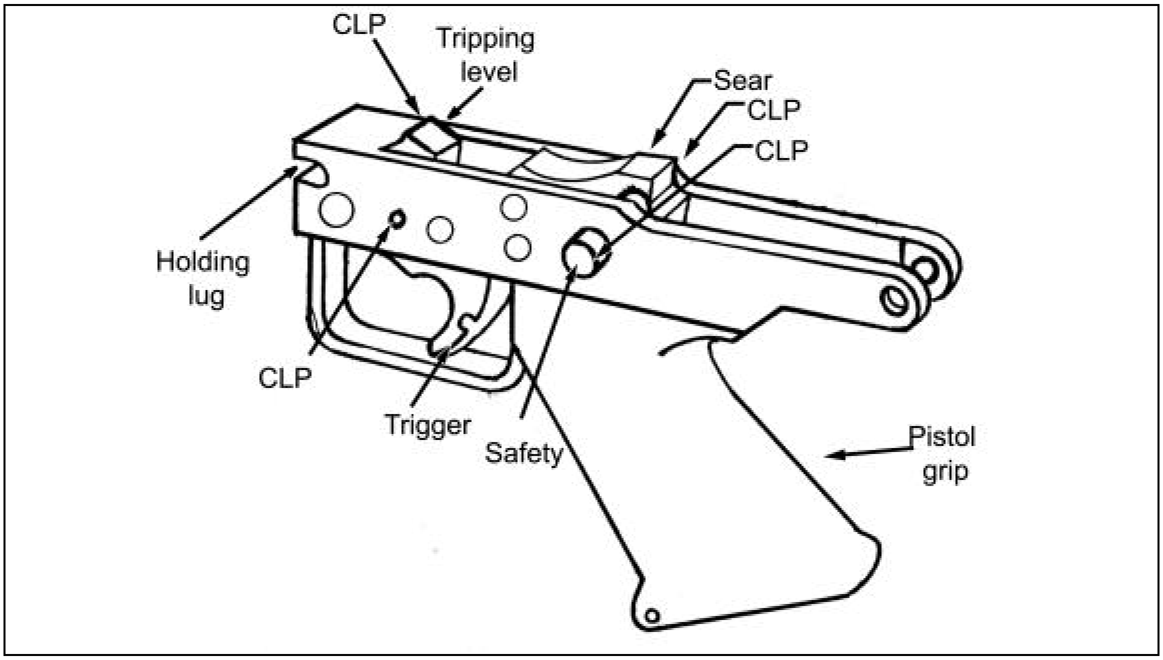


Figure 27

f. Check the slide assembly, bolt assembly, piston assembly, return rod, and transfer mechanism assembly for burrs, cracks, or broken pins. Push down on the roller of the slide assembly to ensure it will retract. Check driving spring for broken strands (figure 28).

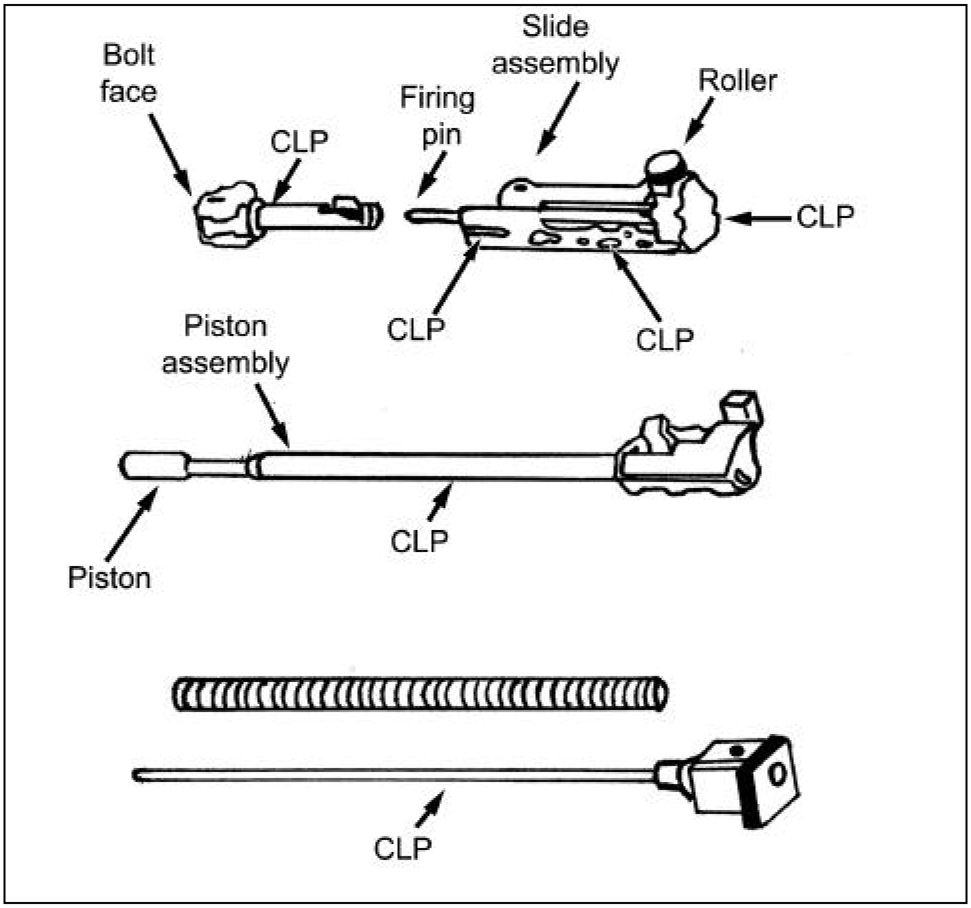


Figure 28

6. *Lubricate the weapon.*

a. Lubricate all metal surfaces inside and out with the exception of the piston.

b. Lightly lubricate all rails (figure 26).

c. Lightly lubricate the tripping lever and sear surface, ends of the trigger pin, safety shaft, and sear pivot pin (figure 27).

d. Lightly lubricate moving parts (figure 29).

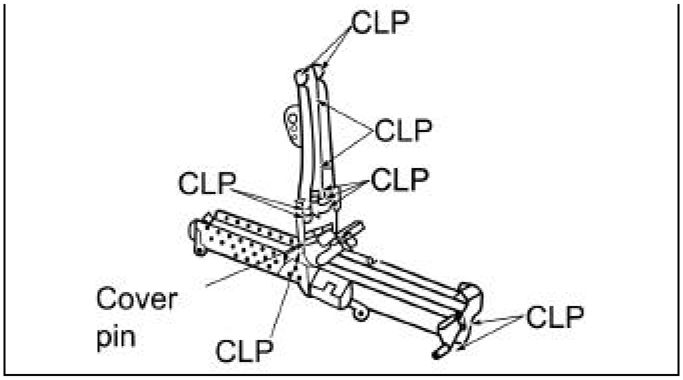


Figure 29

e. Lightly lubricate the driving spring, return rod, transfer mechanism assembly, bolt assembly, piston assembly, slide assembly, moving parts, polished areas, firing pin, and roller.

CAUTION: Do not lubricate the piston.

NOTE: CLP is the only lubricant to use on your weapon. Remember to remove excess lubricant from the bore before firing.

7. *Assemble the M249 SAW.*

a. Place the bipod on the receiver (figure 30).

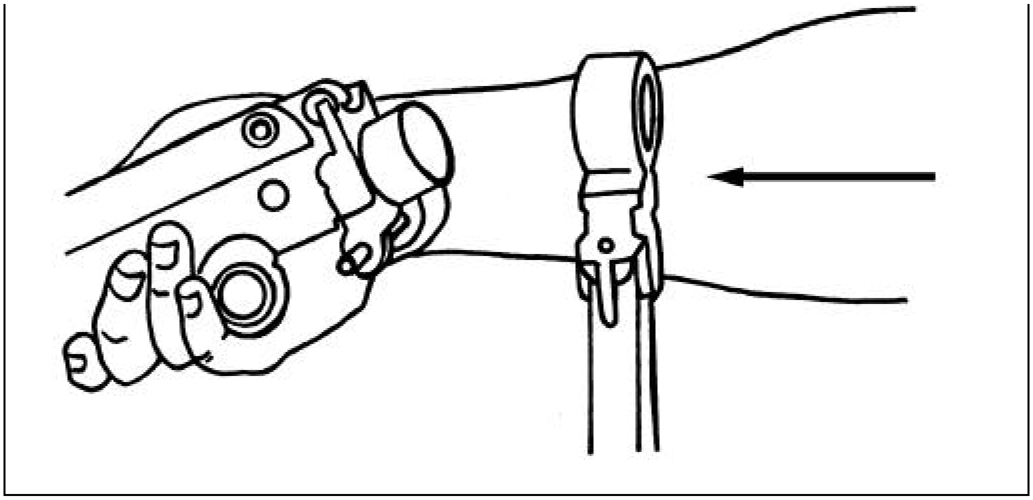


Figure 30

b. Push the gas cylinder through the bipod yoke into the receiver. Push the cylinder to the rear while countering the pressure of the locking spring; guide the end of the cylinder into the receiver with the other hand, applying downward pressure (figure 31).

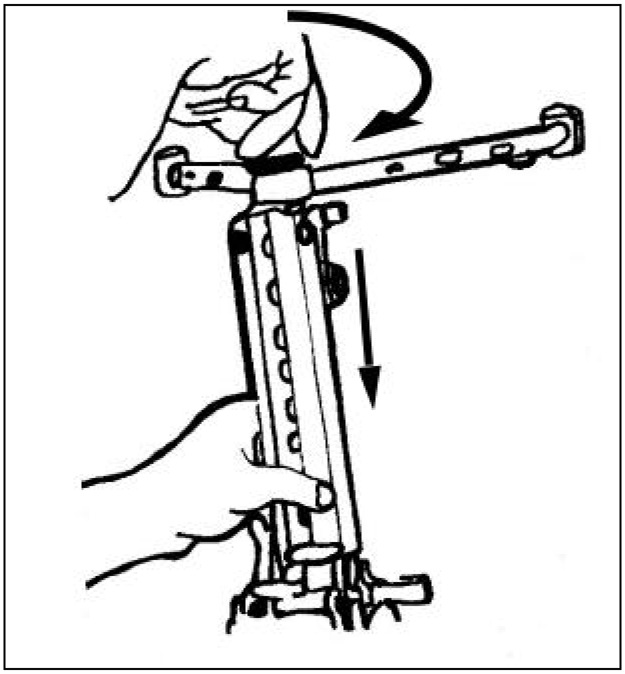


Figure 31

c. Position the recess in the cylinder near the spring. Turn the cylinder until the spring clicks into the recess at the rear of the gas cylinder (figure 32).

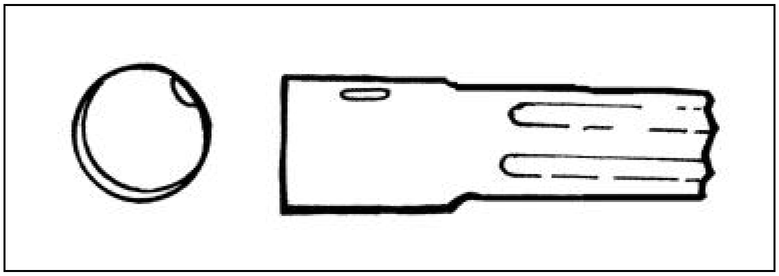


Figure 32

d. Place the handguard on the receiver and slide it backwards until it stops (figure 33).

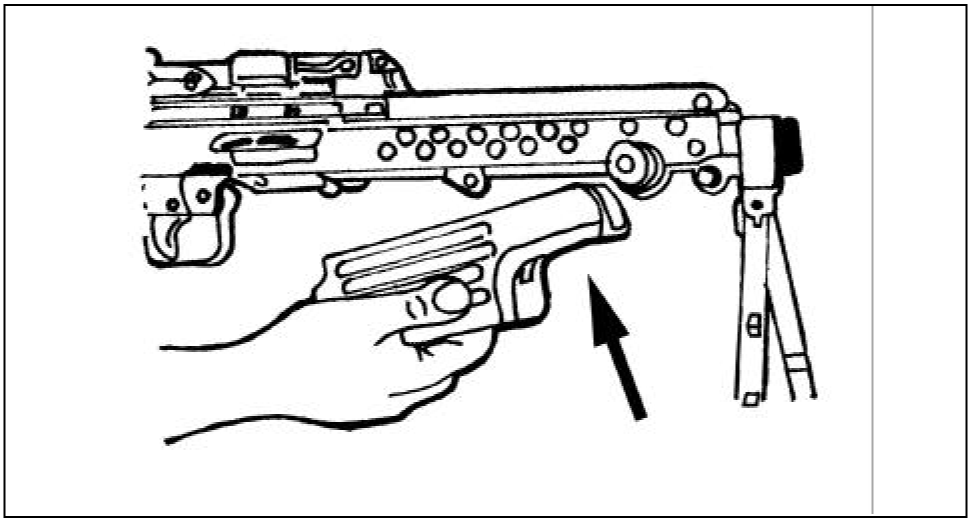


Figure 33

e. With the help of a cleaning rod section, push the handguard retaining pin to the right. Pull downward on the handguard to check if it is secure (figure 34).

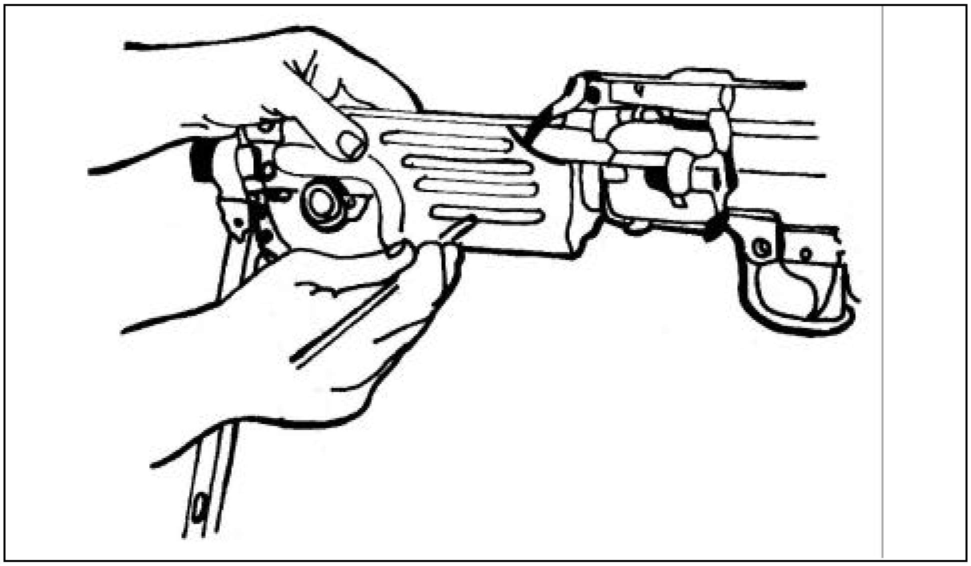


Figure 34

f. Holding the barrel in one hand with the muzzle up, insert the gas regulator into the lower end of the gas block hole, being careful to align the notch on the regulator body with the notch in the gas block (figure 35).

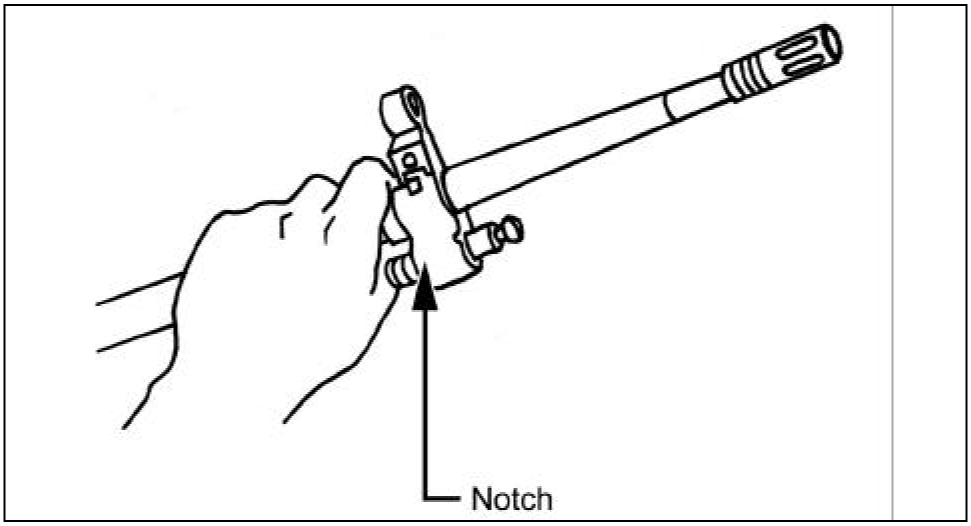


Figure 35

g. With the gas regulator installed and supported on a firm surface, place the gas collar on the protruding end of the gas regulator and rotate the collar until it slips into place. Press in and rotate to lock into place (figure 36).

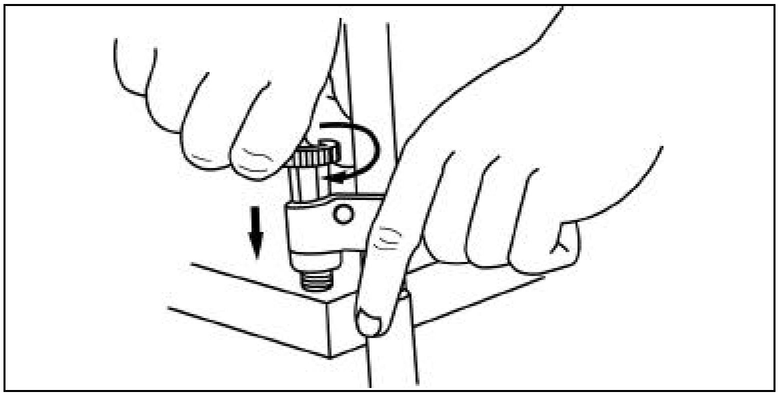


Figure 36

h. Depress the locking lever with your left hand. Holding the carrying handle with the right hand, pull the barrel rearward, push downward, and lock it by releasing the barrel locking lever with your left hand (figure 37).

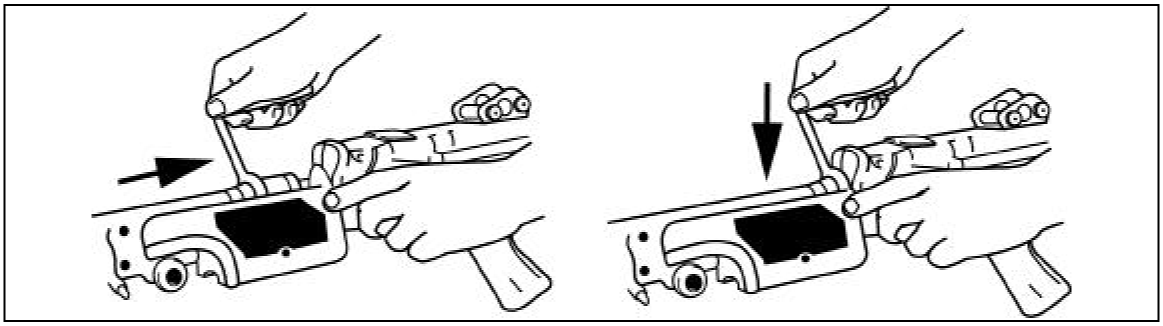


Figure 37

i. Ensure that the retaining pin is to the left. Install the trigger mechanism. Hold it in place by pushing the retaining pin into the right side hole of the trigger mechanism assembly (figure 38).

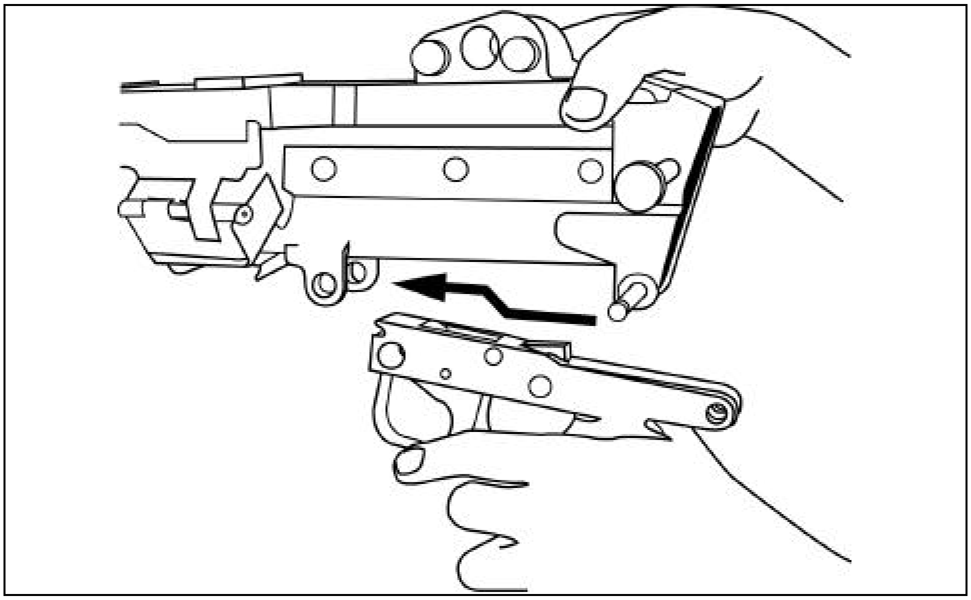


Figure 38

j. While supporting the trigger mechanism with the left hand, align the lower hole in the buttstock, align the buffer assembly with the rear hole in the trigger mechanism, and push the lower retaining pin to the right (figure 39).

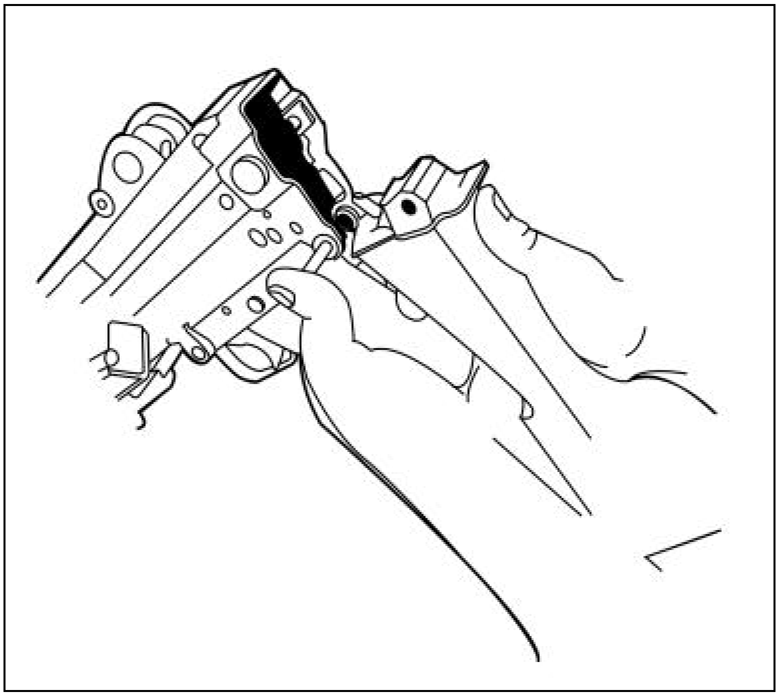


Figure 39

k. Assemble the slide assembly to the piston and secure it by pushing the retaining pin from left to right (figure 40).

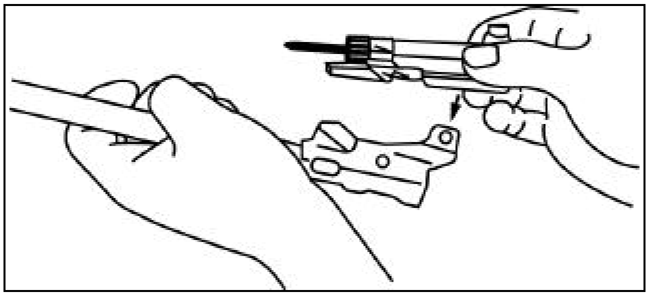


Figure 40

l. While rotating in either direction, slide the spring on the return rod and transfer mechanism assembly (figure 41).

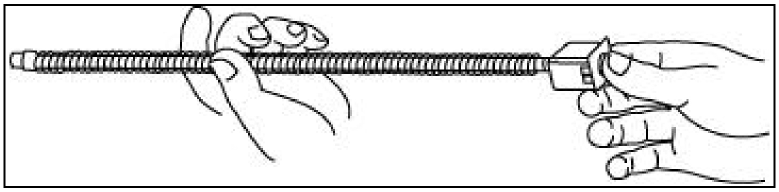


Figure 41

m. Hold the pistol grip with one hand. With the other hand, push the return rod and transfer mechanism assembly into its housing in the rear of the piston. With your thumb, press in and down on the rear of the assembly until its two lugs are positioned in the receiver grooves (figure 42).

NOTE: Ensure that the headed end of the vertical pin in the transfer mechanism assembly is up (on top).

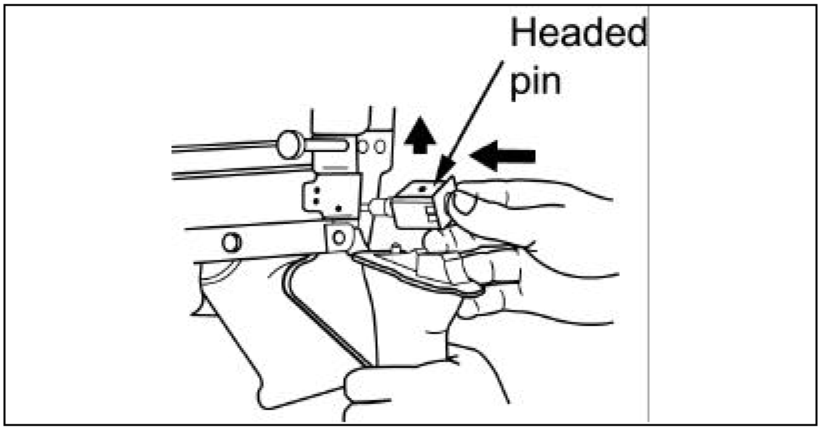


Figure 42

n. Pivot the buttstock and buffer assembly upward into position and push the upper retaining pin to the right; close the cover assembly (figure 43).

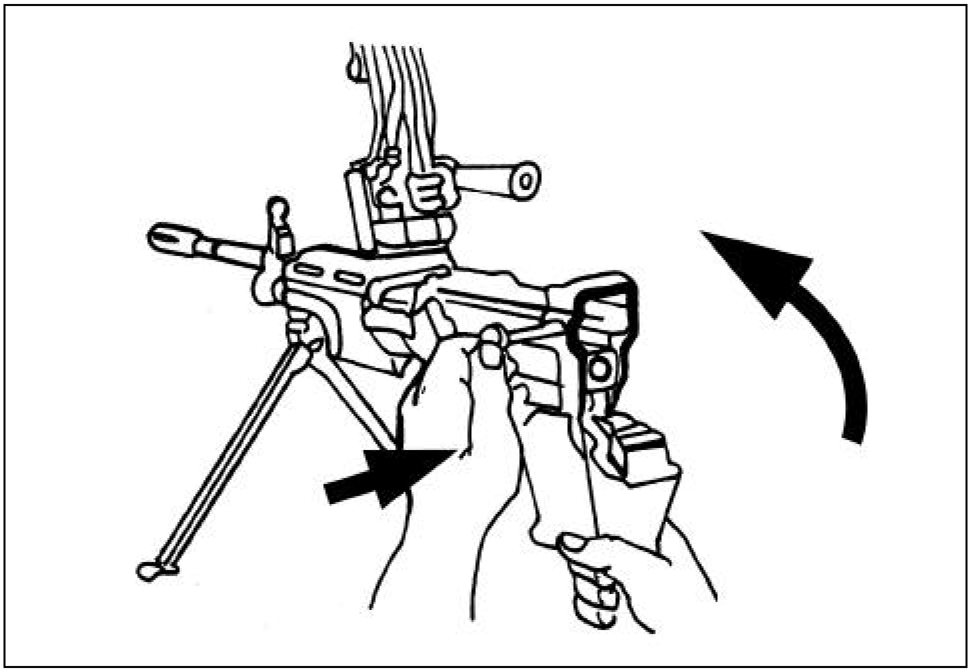


Figure 43

o. Hook the metal extensions of the heat shield assembly under the front sight pins with the spring clips down on top of the barrel. Apply downward pressure and snap the heatshield onto the barrel (figure 44).

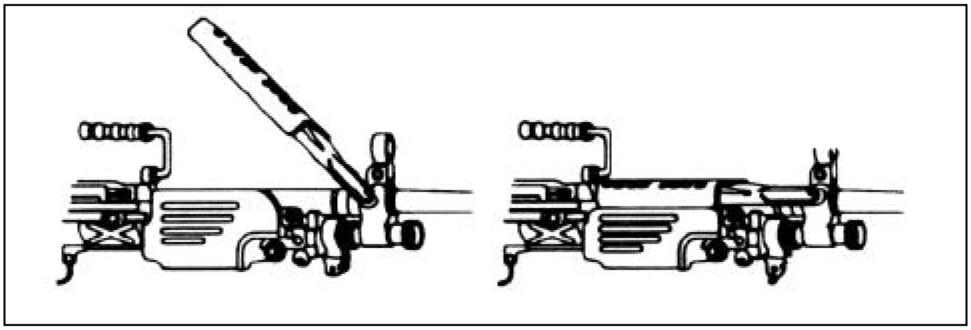


Figure 44

8. *Perform a functions check.*

a. Grasp the cocking handle with the right hand, palm up, and pull the bolt to the rear locking it in place.

b. While continuing to hold the resistance on the cocking handle, use the left hand to move the safety to the *SAFE* position.

c. Push the cocking handle forward into the forward lock position.

d. Pull the trigger. The weapon should not fire.

e. Grasp the cocking handle with the right hand, palm up, and pull and hold it to the rear.

f. Move the safety to the *FIRE* position.

g. While continuing to hold resistance on the cocking handle, use the left hand to pull the trigger and ease the bolt forward to prevent it from slamming into the chamber area and damaging the face of the bolt.

h. If the weapon fails the function check, check for missing parts or the reassembly procedures.

REFERENCE(S):

TM 08671A-10/1, *Operator's Manual,Machinegun, 5.56mm, M249*

TASK: **MCCS.11.18 (CORE) ZERO THE M249 SAW AT 10 METERS**

CONDITION: **GIVEN AN M249 SAW, A KNOWN DISTANCE TARGET AT 10 METERS, AND 12 ROUNDS OF AMMUNITION DURING DAYLIGHT, WEARING A FIGHTING LOAD.**

STANDARD: **TO ATTAIN POINT OF AIM/POINT OF IMPACT.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided a known distance target at 10 meters, an M249 squad automatic weapon (SAW), all individual combat equipment (782 gear), binoculars (as available), and ammunition.

Standard: The Marine must handle the weapon safely at all times, load, field zero, estimate range to target, respond to fire commands, and effectively engage targets. The Marine must perform immediate action to clear a stoppage and perform quick barrel changes. He or she must, at the completion of firing, unload and make sure that the weapon is safe.

Administrative Note: This task is designed to familiarize the Marine with firing the M249 machinegun, commonly referred to as the SAW. This task does not describe the standards by which an assigned gunner should be measured.

PERFORMANCE STEPS:

1. *Ensure the weapon is in Condition 4.*

a. Take the weapon off SAFE.

b. Remove the magazine from the weapon if there is one present, and retain it on your person.

c. Pull the cocking handle to the rear.

d. Put the weapon on SAFE.

e. Open the feed tray cover.

f. Remove all ammunition and belt links, if present.

g. Lift the feed tray and inspect the chamber to ensure that no ammunition is present.

h. Close the feed tray cover.

i. Take the weapon off SAFE.

j. While holding the cocking handle to the rear, pull the trigger and ease the bolt forward to the closed position.

k. Pull the cocking handle to the rear one inch and put the weapon on SAFE.

l. Release the cocking handle.

2. *Center the sights to mechanical zero with rear elevation at 700 meters.*

a. Center the rear sight leaf as shown in figure 1.

(1) Start with the rear sight leaf all the way to the left.

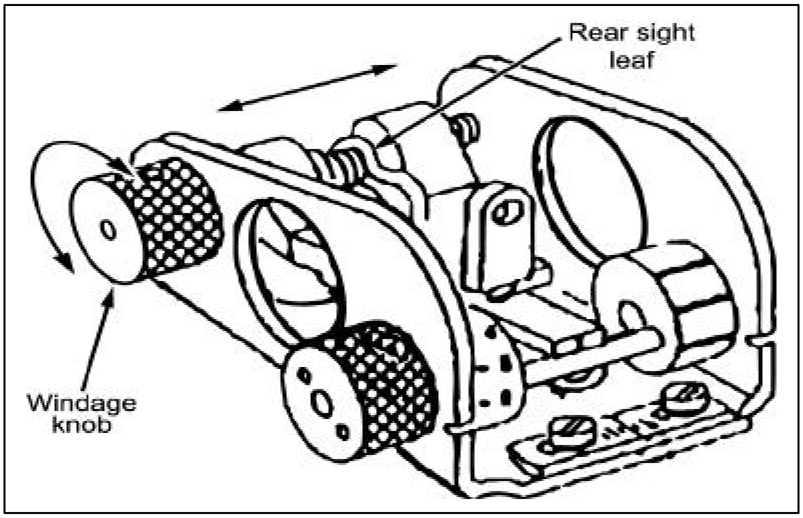


Figure 1

(2) Counting the clicks, rotate the windage knob (front knob) until the rear sight leaf stops on the right side.

(3) Divide this number of clicks by two and move the rear sight leaf to the center. Always round up.

b. Center the peep sight as shown in figure 2.

(1) Start with the peep sight all the way up.

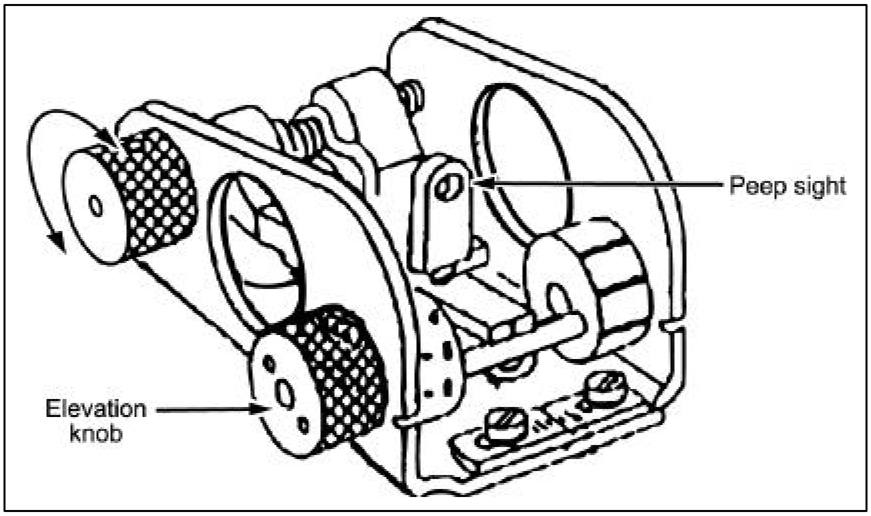


Figure 2

(2) While counting the clicks, screw it down as far as it will go.

(3) Divide this number of clicks by two and move the peep sight to the center. Always round up.

c. Index or place the elevation knob on a range of 700 meters.

3. *Assume the bipod firing position.*

a. Make sure the SAW is properly assembled and functioning for firing.

b. Set up bipod as shown in figure 3.

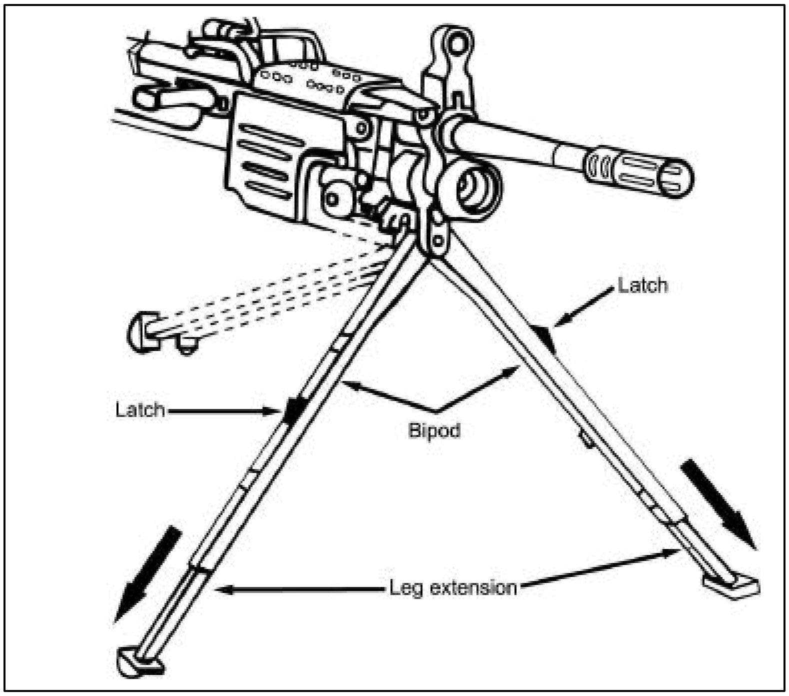


Figure 3

c. Hold legs together and pull them down from the handguard.

d. Release the legs so they lock into the vertical position.

e. To extend bipod legs, push in on the latches and slide legs out.

f. Assume a prone position to the rear of the weapon and place the shoulder rest on your firing shoulder. An imaginary line drawn through the weapon should bisect the firing shoulder and buttock and continue through the heel of your foot.

g. Spread your legs a comfortable distance apart with heels as close to the ground as possible and yet still be comfortable.

h. Grasp the pistol grip with your firing hand with the fleshy end of the index finger resting lightly on the trigger.

i. Place your nonfiring hand on the small of the stock with your thumb curled underneath.

j. Slide your nonfiring hand forward until your little finger touches the receiver so your aiming point will always be the same.

k. Place your cheek against the forefinger of your nonfiring hand to form a stock weld. Try to position your nonfiring hand and cheek at the same spot on the stock each time you fire the weapon. The stock weld should provide for a natural line of sight through the center of the rear sight aperture to the front sight post and target.

l. Relax your neck so that your cheek rests on your forefinger naturally.

m. Apply a firm, steady pressure rearward and down, holding the weapon tightly into the hollow of your shoulder while aiming and firing.

n. Keep your shoulders level and elbows about an equal distance from the receiver of the weapon.

NOTES: The M249 automatic rifle ejects expended brass and links at a 90-degree angle to the RIGHT and downward from the weapon. Left-handed firers should roll their sleeves down to avoid the brass.

4. *Place the weapon in Condition 1, loading each round individually.*

a. Make sure the weapon is in Condition 4.

b. Withdraw the magazine from the magazine pouch.

c. Make sure the magazine is filled with one round.

d. Fully insert the magazine into the magazine well.

e. Tug downward on the magazine to ensure that it is held in the weapon by the magazine catch.

f. Take the weapon off SAFE.

g. Pull the cocking handle fully to the rear.

h. Push the cocking handle fully forward to the locked position.

i. Place the weapon on SAFE.

NOTE: After each round is fired remove the magazine and repeat steps b through i.

5. *Engage pasters 1 and 2 on the 10-meter target.*

a. Fire three single rounds loaded individually at the center base of the aiming points on the basic machinegun marksmanship target. Fire three rounds without making any adjustments to the sights.

b. Make sure the shot group is about a 4-cm circle or smaller to establish the center of the group in relation to the centerbase of the aiming paster. Establishing a smaller shot group is difficult because the SAW is an open-bolt weapon. Sight alignment is disturbed somewhat as the bolt moves forward during firing.

c. Unload the weapon.

d. Move downrange and place the grid square overlay over pasters 1 and 2 for a more accurate adjustment.

e. Make sure the overlay is aligned with the pasters and squares.

f. Count the number of squares it will take to move the shot group to the aiming paster.

g. Upon completion, return to the firing line to make windage and elevation corrections to the weapon.

NOTES: Each number (3 to 10) on the elevation scale stands for 100 meters. The marks below 3 on the right hand scale are 500, 700, and 900 meters, respectively.

Each click of the windage knob (front knob) or the peep sight moves the sight ½ mil and the group on the target 6 inches at 300 meters or 10 inches at 500 meters.

(1) To move the group to the right, turn the windage knob counterclockwise.

(2) To move the group to the left, turn the windage knob clockwise.

(3) To raise the group, turn the peep sight counterclockwise.

(4) To lower the group, turn the peep sight clockwise.

h. Fire another group. Repeat the above procedures until the weapon is zeroed.

REFERENCE(S):

FM 23-14, *Squad Automatic Weapon, M249*
MCWP 3-15.1, *Machinegun and Machinegun Gunnery*

AMMUNITION:

DODIC	NOMENCLATURE	INITIAL PROFICIENCY	PER ITERATION	ANNUAL SUSTAINMENT
A064	CTG 5.56MM, LINKED, F/SAW	12.000 EA	12.000 EA	24.000 EA

TASK: **MCCS.11.19 (CORE) ENGAGE TARGETS WITH THE M249 SAW**

CONDITION: **GIVEN AN M249 SAW, AMMUNITION, EIGHT MAN-SIZED TARGETS AT 50-400 METERS, AND 782-GEAR.**

STANDARD: **TO ACHIEVE IMPACT ON FIVE OF EIGHT TARGETS WHILE FIRING THREE- TO FIVE-ROUND BURSTS.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given an M249 SAW, ammunition, eight man-sized targets at 50-400 meters, and 782-gear.

Standard: To achieve impact on five of eight targets while firing three- to five-round bursts.

PERFORMANCE STEPS:

1. *Handle the weapon safely.*

a. Apply the following safety rules at all times to ensure that only the intended target is engaged.

SAFETY RULES	
Rule 1	Treat every weapon as if it were loaded.
Rule 2	Never point a weapon at anything you do not intend to shoot.
Rule 3	Keep your finger straight and off the trigger until you are ready to fire.
Rule 4	Keep the weapon on safe until you intend to fire.

b. A weapon's readiness/safety is described by one of four conditions. The steps in the loading and unloading process take the rifle through four specific conditions of readiness for live fire.

CONDITION CODES	
Condition 1	The bolt is locked to the rear. The safety is on. The source of ammunition is in position on the feed tray or in the magazine well. The cover is closed.
Condition 2	Not applicable.
Condition 3	The bolt is forward. The chamber is empty. The safety is off. The source of ammunition is in position on the feed tray or in the magazine well. The cover is closed.
Condition 4	The bolt is forward. The safety is off. The feed tray is clear of ammunition and/or no magazine is inserted. The cover is closed.

c. Place the weapon in condition 4.

(1) Clear the weapon using the belt-fed technique.

(a) Take the weapon off SAFE.

(b) Pull the cocking handle to the rear.

(c) Put the weapon on SAFE.

(d) Open the feed tray cover.

(e) Remove all ammunition and belt links.

(f) Lift the feed tray and inspect the chamber to ensure that no ammunition is present.

(g) Close the feed tray cover.

(h) Take the weapon off safe.

(i) While holding the cocking handle to the rear, pull the trigger and ease the bolt forward to the closed position.

(2) Clear the weapon using the magazine-fed technique.

(a) Take the weapon off SAFE.

(b) Remove the magazine from the weapon and retain it on your person.

(c) Pull the cocking handle to the rear.

(d) Put the weapon on SAFE.

(e) Open the feed tray cover.

(f) Lift the feed tray and inspect the chamber to ensure that no ammunition is present.

(g) Close the feed tray cover.

(h) Take the weapon off SAFE.

(i) While holding the cocking handle to the rear, pull the trigger and ease the bolt forward to the closed position.

2. Assume a prone position bipod supported.

a. Prone position, bipod supported. Assume a prone position to the rear of the weapon and place the shoulder rest on your firing shoulder. An imaginary line drawn through the weapon should bisect the firing shoulder and buttock and continue through the heel of your foot.

b. Spread your legs a comfortable distance apart with heels as close to the ground as possible and yet still be comfortable.

c. Grasp the pistol grip with your firing hand with the fleshy end of the index finger resting lightly on the trigger. Place your nonfiring hand on the small of the stock with your thumb curled underneath. Slide your nonfiring hand forward until your little finger touches the receiver so your aiming point will always be the same.

d. Place your cheek against the forefinger of your nonfiring hand to form a stock weld. Try to position your nonfiring hand and cheek at the same spot on the stock each time you fire the weapon. The stock weld should provide for a natural line of sight through the center of the rear sight aperture to the front sight post and to the target. Relax your neck so that your cheek rests on your forefinger naturally.

e. Apply a firm, steady pressure rearward and down, holding the weapon tightly into the hollow of your shoulder while aiming and firing.

f. Keep your shoulders level and elbows about an equal distance from the receiver of the weapon as shown in figure 1.

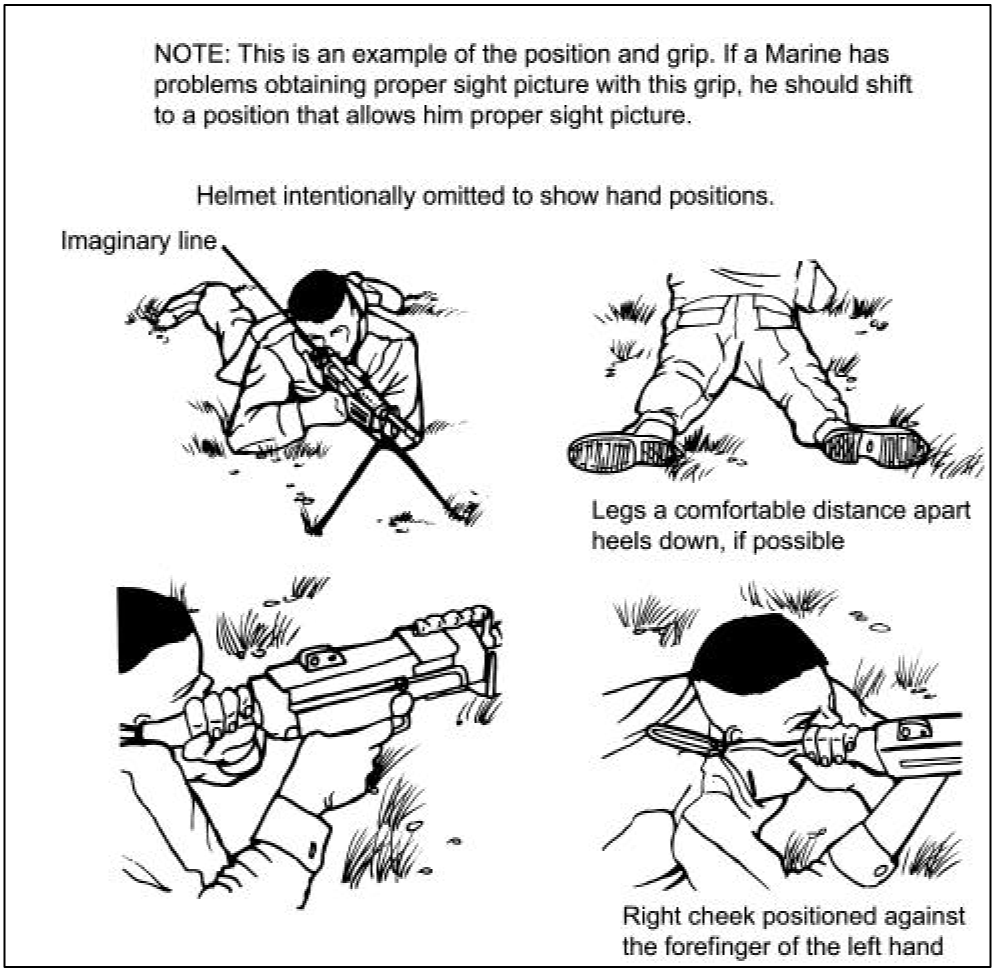

NOTE: This is an example of the position and grip. If a Marine has problems obtaining proper sight picture with this grip, he should shift to a position that allows him proper sight picture.
Helmet intentionally omitted to show hand positions.
Imaginary line
Legs a comfortable distance apart heels down, if possible
Right cheek positioned against the forefinger of the left hand

Figure 1

NOTE: The M249 AR ejects expended brass and links at a 90-degree angle to the RIGHT and downward from the weapon. Therefore, left-handed firers should roll their sleeves down to avoid the brass.

3. *Place the weapon in Condition 1.*

- The bolt is locked to the rear. The safety is on. The source of ammunition is in position on the feed tray or in the magazine well. The cover is closed.

4. *Engage target at 400 meters in the prone position.*

a. Direct Lay. The simplest, quickest, and most effective technique of delivering fire with the M249 with bipod is to align the sights on the target and properly apply fire. Apply the appropriate range setting to the M249 rear sights as shown in figure 2. Adjustments for elevation (range) require the automatic rifleman to turn the elevation knob (closest to the buttstock) on the rear sight to the desired range setting. Range settings are graduated increments from 300 to 1,000 meters. Even numbered settings are on the left side of the scale wheel and are numbered 4, 6, 8, and 10 which represent 400, 600, 800, and 1,000 meters, respectively. Odd numbered settings are on the right side of the scale wheel and marked with the number 3 and three index lines, which represent 300, 500, 700, and 900 meters, respectively. Rotation of the elevation knob toward the muzzle (counterclockwise) increases the range, while rotation toward the buttstock (clockwise) decreases the range. Fine adjustments, like zeroing, are made by adjusting the peep sight. Each 180-degree turn equals a 1/2 mil change in elevation which equals a 1/2cm change in impact at a range of 10 meters. Clockwise (to the right) rotations decrease elevation, while counterclockwise (to the left) rotations increase elevation. The peep sight can be turned nine 180-degree turns from top to bottom. To make the peep sight easier to grasp, the elevation knob is turned to its highest point (1,000 meters). The appropriate adjustment is made for the peep sight, and then the sight is returned to the desired range. Whenever readjusting the range, the point of aim is never changed. The point of aim is the center base of the target.

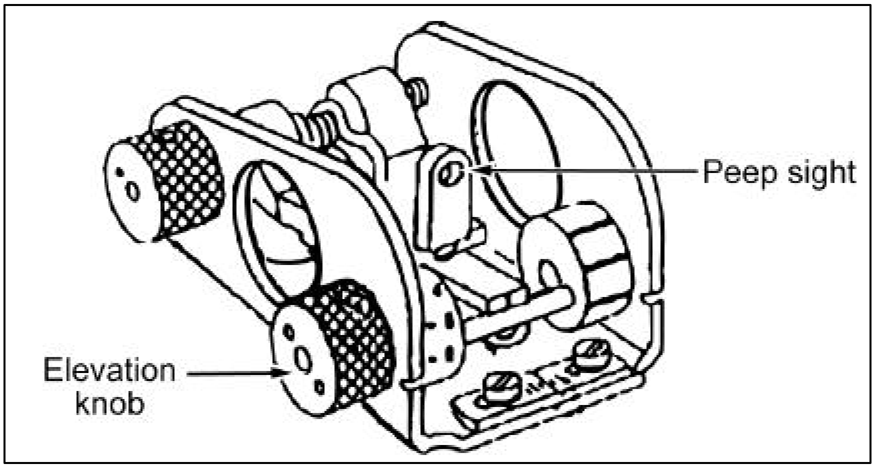


Figure 2

b. Windage. Adjustments for windage are made by traversing the rear sight right and left along the sliding scale. The sliding scale is marked or graduated with index lines. Each index line is equal to 1/2 mil change in direction or 1/2cm change of impact at 10 meters. Rotation of the windage knob (closest to the muzzle end) toward the muzzle (counterclockwise) moves the rear sight aperture right, which moves the strike of the rounds right while rotation toward the buttstock (clockwise) moves the aperture left, which moves the strike of the rounds left.

c. Application of Fire. The automatic rifleman must aim, fire, and adjust on a certain point of the target. He always keeps the center of his beaten zone at the center base of the target for maximum effect from each burst of fire. When this is done, bullets in the upper half of the cone of fire will run through the target if it has height, and the bullets in the lower half of the beaten zone will ricochet into the target.

- The four fundamentals for firing the M249 are steady position, aim, breath control, and trigger control.

(a) Steady Position. In automatic fire, position is the most important aspect of marksmanship. If the automatic rifleman has a good zero, aims his weapon correctly, and properly applies a steady hold in firing a burst of three rounds, the first round of that burst will hit the target at the point of aim. However, this is not necessarily true of the second and third rounds. The first round hits the aiming point the same as when a round is fired singularly. The recoil from the first and subsequent rounds will progressively disturb the lay of the weapon with each round of the burst. The relationship between the point of impact of the first and subsequent rounds of the burst depends on the stability of the automatic rifleman's position. His body, directly behind the weapon, serves as the foundation, and his grip serves as a lock to hold the weapon against the foundation. The better the body alignment and the steadier the grip, the less dispersed the rounds of a burst of automatic fire will be.

(b) Aim. To aim the M249 AR, the automatic rifleman must align the sights, focus his eye, obtain a correct sight picture, control his breathing, and maintain trigger control.

1. Sight alignment. Align the rear sight aperture (peep sight) with the sight post of the hooded front sight. Then, align the front sight post in the center of the rear peep sight. An imaginary horizontal line drawn through the center of the peep sight should touch the top of the front sight post (figure 3, A), while an imaginary vertical line through the center of the rear peep sight should bisect the front sight post (figure 3, B).

2. Focus of the eye. A good firing position places the eye directly on line with the center of the rear sight. Focus on the tip of the front sight post. The natural ability of the eye to center objects in a circle and to seek the point of greatest light (center of peep sight) aids in providing correct sight alignment.

3. Sight picture. A correct sight picture has the target, front sight post, and rear sight aligned. The sight picture consists of sight alignment and placement of the aiming point on the target. Align the tip of the front sight post in the center of the rear peep sight (figure 3, C), and then align the sights with the target. Align the top of the front sight post on the center base of the target (figure 3, D).

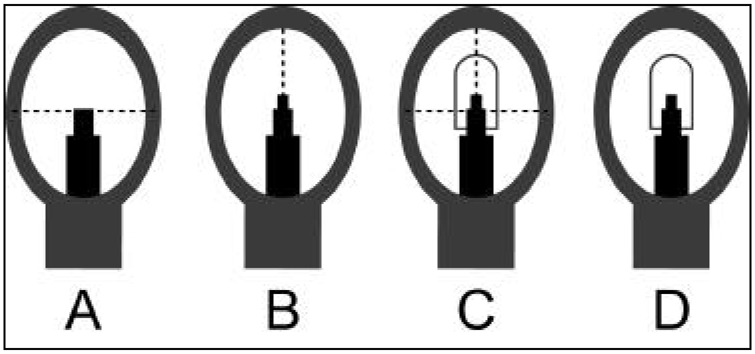


Figure 3

(c) Breath Control. Two types of breath control are used. When firing single shots, as in zeroing, the automatic rifleman stops breathing after most of the air has been exhaled during the normal breathing cycle. He or she fires before he or she feels any discomfort. During automatic fire, ideally, the automatic rifleman exhales and stops his or her breath when pressing the trigger. He or she does not have time to take deep breaths between bursts. He or she must hold his or her breath before each burst or adapt his or her breathing by taking quick shallow breaths or taking deeper breaths between several bursts.

(d) Trigger Control. Pressing the trigger straight to the rear and releasing it helps control the number of rounds in each burst and prevents disturbing the lay of the weapon. For a three-round burst, the automatic rifleman presses the trigger to the rear, says "Press, release" and releases the trigger.

d. Adjustment of Fire. The automatic rifleman initially sets his or her sights with the range to the target, lays on the target (sight alignment and sight picture on the center base of the target), fires a burst, and observes the strike of the rounds or flight of the tracers. When the initial burst is correct, he or she continues to fire until the target is covered. He or she must regain a good sight picture before each burst when firing with the bipod.

e. Sight Corrections Method. An automatic rifleman must observe and adjust fire rapidly to be effective. He or she observes bursts of fire by noting the strike of the rounds in the target area and the tracers in flight. The technique to adjust fire depends on time, range, and amount of adjustment. These factors assist the automatic rifleman in determining whether or not to make sight corrections or adjust position and point of aim. When the initial burst is not correctly placed, the automatic rifleman may change the elevation and windage on the sights and fire another burst on the target. One click of the windage knob or peep sight moves the strike of the round 1/2cm at a range of 10 meters or 1/2 meter at 1,000 meters. To make corrections, use the following table as a reference. This method is time-consuming, even for the well-trained Marine.

Windage and Elevation (peep sight) Correction Chart	
100 meters-one click moves strike	5cm (2 inches)
200 meters-one click moves strike	10cm (4 inches)
300 meters-one click moves strike	15cm (6 inches)
400 meters-one click moves strike	20cm (8 inches)
500 meters-one click moves strike	25cm (10 inches)
600 meters-one click moves strike	30 cm (12 inches)
700 meters-one click moves strike	35cm (14 inches)
800 meters-one click moves strike	40cm (16 inches)
900 meters-one click moves strike	45cm (18 inches)

f. Adjusted Aiming Point Method. In this method of fire adjustment, the automatic rifleman uses his sight but does not make sight corrections. This is the quickest method. If the automatic rifleman misses the target with his or her initial burst, he or she must rapidly select a new aiming point the same distance from the target as the center of impact of the initial burst, but in the opposite direction. For example, if the strike of the rounds of the initial burst is 20 meters beyond and 10 meters to the right of the target, he or she rapidly selects an aiming point about 20 meters short and 10 meters to the left of the target, lays on that aiming point, and fires as shown in figure 4. When selecting a new aiming point, he or she may have to shift his or her shoulders slightly to the left or right for windage corrections. For elevation changes, he or she moves his or her elbows closer together (lowers the impact) or farther apart (raises the impact). For large corrections, he or she must move his or her elbows and realign his or her body to remain directly behind the weapon. He or she does this by redistributing weight to his or her elbows and toes and raises his or her body off the ground. He or she shifts his or her body using his or her toes, to the right or left, pivoting on his or her elbows until he or she is on line with the target. Then he or she assumes a steady position, obtains the sight picture, and engages the target.

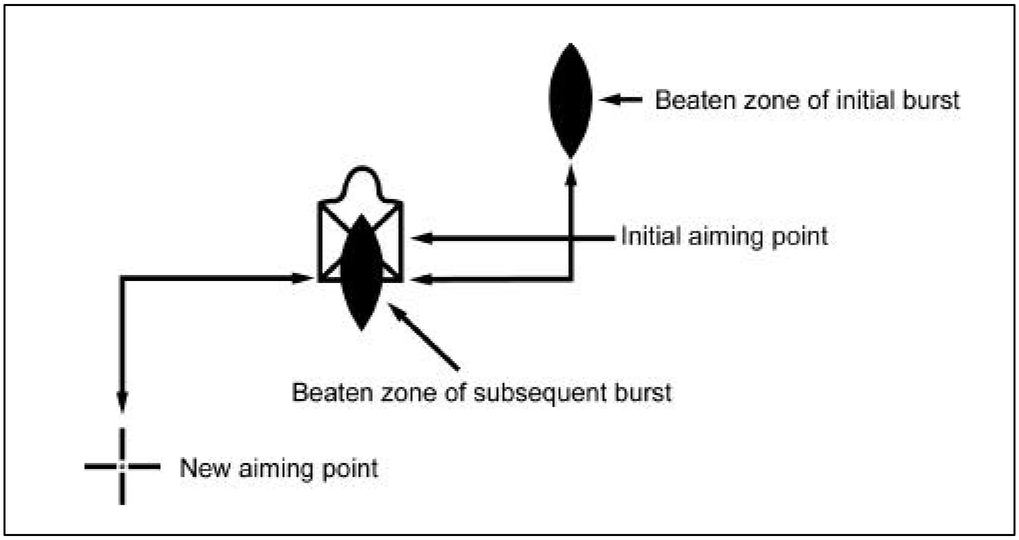


Figure 4

5. *Engage target at 250 meters in the prone position.*

- Follow the same procedures described in paragraphs a through f in performance step 4.

6. *Engage target at 150 meters in the prone position.*

- Follow the same procedures described in paragraphs a through f in performance step 4.

7. *Engage target at 300 meters in the prone position.*

- Follow the same procedures described in paragraphs a through f in performance step 4.

8. *Engage target at 50 meters in the prone position.*

- Follow the same procedures described in paragraphs a through f in performance step 4.

9. *Engage target at 350 meters in the prone position.*

- Follow the same procedures described in paragraphs a through f in performance step 4.

10. *Engage target at 100 meters in the prone position.*

- Follow the same procedures described in paragraphs a through f in performance step 4.

11. *Engage target at 200 meters in the prone position.*

- Follow the same procedures described in paragraphs a through f in performance step 4.

12. *Apply immediate and/or remedial action as required.*

a. Immediate action is taken to reduce a stoppage without looking for the cause. Immediate action should be taken in the event of a misfire or a cookoff. A misfire is the failure of a chambered round to fire. Such failure can be due to an ammunition defect or faulty firing mechanism. A cookoff is the firing of a round by the heat of a hot barrel and not by the firing mechanism. Cookoffs can be avoided by applying immediate action within 10 seconds of a failure to fire. The automatic rifleman keeps the AR on his or her shoulder while performing immediate action procedures. If the M249 stops firing, the following immediate actions are taken. (An effective memory aid is Pull, Observe, Push, and Press (POPP).)

(1) Pull and lock the cocking handle to the rear while observing the ejection port to see if a cartridge case, belt link, or round is ejected. Ensure the bolt remains to the rear to prevent double feeding if a round or cartridge case is not ejected.

(2) If a cartridge case, belt link, or a round is ejected, push the cocking handle to its forward position, take aim on the target, and press the trigger. If the weapon does not fire, take remedial action. If a cartridge case, belt link, or round is not ejected, take remedial action.

DANGER: If nothing is ejected and the barrel is hot (200 or more rounds fired in less than 2 minutes), do not open the cover. Push the safety to the right (red ring not visible), which places the weapon on safe. Keep the weapon pointed downrange and remain clear for 15 minutes, then clear the weapon.

b. Remedial action is any action taken to determine the cause of a stoppage and to restore the weapon to an operational condition. This action is taken only after immediate action did not remedy the problem.

(1) Cold Weapon Procedures. When a stoppage occurs with a cold weapon and immediate action has failed, use the following procedures.

(a) While the weapon is on your shoulder, grasp the cocking handle with the right hand, palm up and pull the cocking handle to the rear locking the bolt. While holding the resistance on the cocking handle, move the safety to SAFE and return the cocking handle.

(b) Place the weapon on the ground or away from your face and open the feed cover, perform the five-point safety check. Reload and continue to fire.

(c) If it does not fire, clear the weapon and inspect it and the ammunition.

(2) Hot Weapon Procedures. If the stoppage occurs with a hot weapon (200 or more rounds in less than 2 minutes), move the safety to SAFE, wait 5 seconds (during training, let the weapon cool for 15 minutes), then use the same procedures as outlined for cold weapon procedures.

DANGER: Be careful in clearing the weapon when the barrel is hot, a round may fire (cookoff) from the barrel's heat instead of by the firing mechanism. During combat, wait 5 seconds because of the possibility of a "hangfire" before applying remedial action. During training, wait 15 minutes before clearing a hot weapon and applying remedial action.

13. *Place the weapon in condition 4.*

- The bolt is forward. The safety is off. The feed tray is clear of ammunition and/or no magazine is inserted. The cover is closed.

REFERENCE(S)

FM 23-14, *Squad Automatic Weapon, M249*
MCWP 3-15.1, *Machinegun and Machinegun Gunnery*

TASK: **MCCS.12.01 (CORE) IDENTIFY THE CHARACTERISTICS OF MACHINEGUNS**

CONDITION: **GIVEN A TARGET DESCRIPTION, AN M240G MEDIUM MACHINEGUN, AN M2 HB .50 CALIBER HEAVY MACHINEGUN, AND AN MK19 40MM HEAVY MACHINEGUN.**

STANDARD: **TO DETERMINE THE WEAPON BEST SUITED FOR THE TARGET ENGAGEMENT.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a target description, a M240G medium machinegun, an M2HB .50 caliber heavy machinegun, and a MK19 40MM heavy machinegun.

Standard: To determine the weapon best suited for the target engagement.

PERFORMANCE STEPS:

1. *Identify machineguns*.

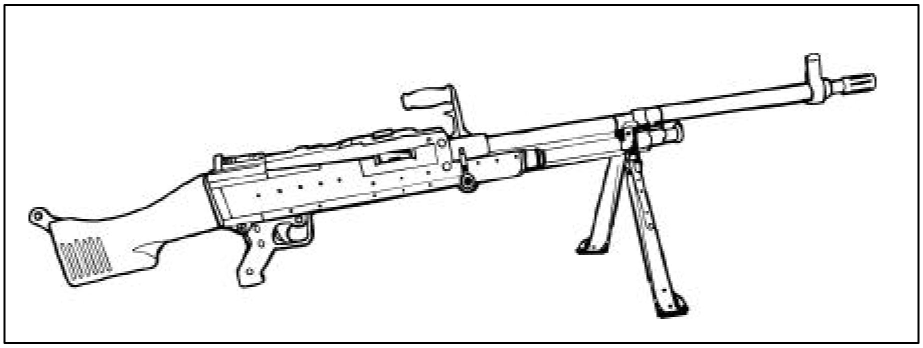


Figure 1. M240G Medium Machinegun.

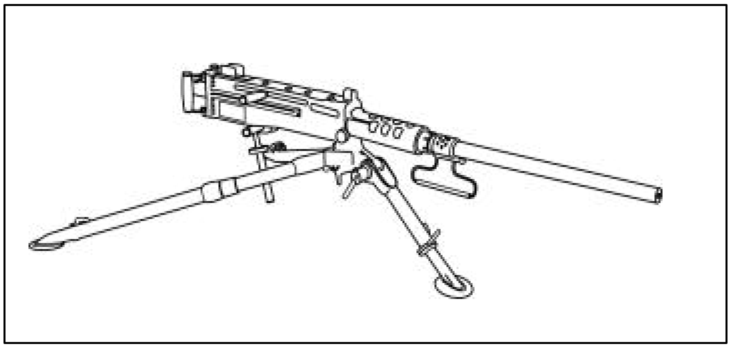


Figure 2. M2 .50 Caliber Heavy Machinegun

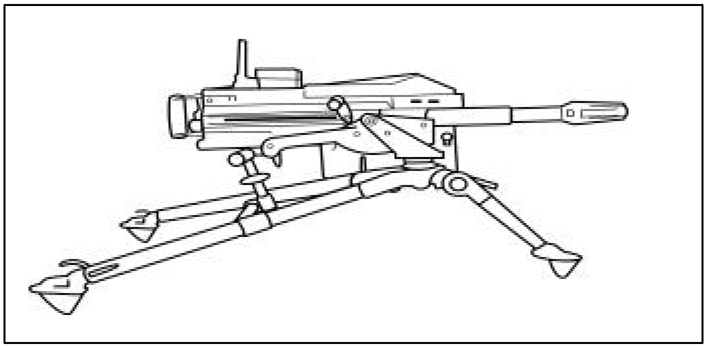


Figure 3. MK19 40MM Heavy Machinegun

2. *List the capabilities of machineguns.*

a. M240G medium machinegun capabilities

(1) Ranges:

Maximum	3,725 meters
Maximum Effective	1,800 meters
Grazing Fire	600 meter

(2) Ammunition:

Caliber	7.62 millimeters
Types in Use	Ball, tracer, blank, dummy, and armor-piercing
Basic Allowance Per Gun	400 rounds
Weight of a 100 Round Assault Pack (2 per can)	7 pounds

(3) Rates of fire:

Sustained	100 rounds per minute; fired in 6 to 8 round; bursts 4 to 5 seconds between bursts; barrel change every 10 minutes
Rapid	200 rounds per minute; fired in 10 to 12 round bursts; 2 to 3 seconds between bursts; barrel change every 2 minutes
Cyclic	650 to 950 rounds per minute; continuous burst barrel; change every minute; (depending on gas setting)

(4) Manipulation (tripod mount):

Limits of Elevation with T&E Mechanism	247 mils
Free Gun	996 mils
Limits of Depression with T&E Mechanism	200 mils
Free Gun	996 mils
Limits of Traverse (tripod mount) Using Traversing Bar	875 mils (425 left, 450 right)
On the Traversing Handwheel	100 mils
Free Gun	6400 mils

b. M2HB .50 caliber heavy machinegun capabilities

(1) Ranges:

Maximum (M2 ball)	7,400 meters (approximate)
Maximum Effective	1,830 meters
Grazing Fire	700 meter

(2) Ammunition:

Caliber	50 caliber
Types in Use	Ball, tracer, armor-piercing, incendiary, arm-piercing incendiary, armor-piercing incendiary, sabot light armor penetrator, sabot light armor penetrator-tracer, blank, dummy, and plastic practice (ball and tracer)
Basic Load of Ammunition Per Gun (vehicle mount)	400 rounds
Weight of a 100 Rounds in Ammunition Can	Approximately 35 pounds

(3) Rates of fire:

Sustained	40 rounds or less per minute
Rapid	More than 40 rounds per minute
Cyclic	450 to 550 rounds per minute

(4) Manipulation (tripod mount, tripod controlled):

Elevation	100 mils
Depression	250 mils

c. MK19 40MM heavy machinegun capabilities

(1) Ranges:

Maximum	2,212 meters
Maximum Effective:	
Point Target	1,500 meters
Area Target	2,212 meters

(2) Ammunition:

Caliber	40 millimeter
Types in Use	High explosive, dual purpose; high explosive, target practice; and dummy
Basic Load of Ammunition Per Gun (vehicle mount)	400 rounds
Weight of 48 Rounds (HE or HEDP) in Container	62 pounds

(3) Rates of fire:

Sustained	40 rounds per minute
Rapid	60 rounds per minute
Cyclic	325 to 375 rounds per minutes

(4) Manipulation (tripod mount, tripod controlled):

Elevation	100 mils
Depression	250 mils
Traverse	800 mils (400 left, 400 right)

3. *Compare the characteristics of machineguns.*

a. M240G medium machinegun characteristics

- Weights/Measurements:

Total System Weight (gun and tripod complete)	45.6 pounds
Weight of Machinegun	25.6 pounds
Weight of Barrel	6.6 pounds
Weight of Spare Barrel Case, Complete with Spare Barrel and All SL-3 components	12.90 pounds
Weight of Tripod, Complete with Flex-Mount Including T&E Mechanism	20 pounds
Length of Machinegun	49 inches
Height of Machinegun on Tripod	17 inches
Muzzle Velocity	2,800 feet per second
Rifling	Four grooves with a uniform right hand twist, one turn in 12 inches

b. M2HB .50 caliber heavy machinegun characteristics

- Weights/Measurements:

Total System Weight (gun, cradle, and tripod)	140.6 pounds
Weight of Gun	75.6 pounds
Weight of Gun Cradle (MK64 MOD 5)	21 pounds
Weight of M3 Tripod	44 pounds
Length of Gun	43.1 inches
Muzzle Velocity	790 feet per second one turn in 48 inches

c. MK19 40MM heavy machinegun characteristics

- Weights/measurements:

Total System Weight (Gun, radle, and Tripod)	140.6 pounds
Weight of Gun	75.6 pounds
Weight of M3 Tripod	44 pounds
Length of Gun	43.1 inches
Muzzle Velocity	790 feet per second
Rifling	Right hand, uniform twist, one turn in 48 inches

4. *Select the machinegun best suited to engage a specific target.*

a. **M240G.** The M240G is an air-cooled, belt-fed, gas-operated automatic weapon. It provides a heavy controlled volume of accurate, long-range fire that is beyond the capabilities of individual small arms. It also provides a heavy volume of close, accurate, and continuous fire support to suppress and destroy enemy personnel in support of an attack. The M240G is employed to provide final protective fires, effectively breaking up and stopping an enemy assault.

- Firing the M240G from the tripod position provides the most stable base for the weapon, enabling the gunner to maximize its range capabilities and deliver a high degree of accurate fire on target. The traversing and elevation (T&E) mechanism permits controlled manipulation in both direction and elevation and makes it possible to engage predetermined targets during darkness or periods of reduced visibility.

b. **M2 .50 Cal**. The machinegun, caliber .50 Browning, M2HB .50 cal, is a belt-fed, recoil-operated, air-cooled, crew-served machinegun. The M2 is capable of single shot as well as automatic fire. It provides the heavy volume of close, accurate, and continuous fire support necessary to suppress and destroy enemy fortifications, vehicles, and personnel in support of an attack.

- The M2 .50 cal also is used to:

  (a) Provide protection for motor movements, vehicle parks, and train bivouacs.

  (b) Defend against low-flying hostile aircraft.

  (c) Destroy lightly armored vehicles.

  (d) Provide reconnaissance by fire on suspected enemy positions.

  (e) Provide final protective fires.

c. **MK19 MOD 3 40MM.** The MK19 is an air cooled, blowback-operated, fully automatic weapon. The MK19 is employed from a tripod or from a variety of vehicles. The MK19 provides a heavy volume of close, accurate, and continuous fire support that makes it a highly responsive weapon with which to suppress and destroy enemy personnel, fortifications, and vehicles in support of an attack.

- Its capability for both long-range and close defensive fires make it an ideal weapon in the defense. The fragmentation producing effects are devastating against attacking dismounted infantry. It’s ability to effectively penetrate lightly armored vehicles prevents the enemy from remaining mounted and rapidly closing with friendly defensive positions.

REFERENCE(S):

MCWP 3-15.1, *Machinegun and Machinegun Gunnery*

TASK: **MCCS.13.01 (CORE) PERFORM UNAIDED DAY AND NIGHT OBSERVATION TECHNIQUES**

CONDITION: **GIVEN AN AREA TO OBSERVE DURING DAYLIGHT OR DARKNESS.**

STANDARD: **TO IDENTIFY SEVEN OF TEN OBJECTS AND SOUNDS.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given an area to observe during daylight or darkness.

Standard: The Marine must identify seven of ten objects and sounds in accordance to the references.

PERFORMANCE STEPS:

1. Avoid all unnecessary movement.

a. Remain motionless while observing. Anything in motion attracts the eye.

b. Use all available concealment because it offers a low silhouette and makes detection by the enemy difficult.

c. Expose nothing that reflects light.

d. Blend with the background because contrasting colors are noticeable.

e. Remain in the shade because moving shadows attract attention.

f. Distort or change the regular outline of objects. Most military objects have distinctive shapes that make obvious shadows and silhouettes.

g. Avoid the skyline. Figures on the skyline can be seen from great distances and are easily identified by their outlines.

2. Search field of view using the off-center vision method.

- The technique of viewing an object using daytime central vision is ineffective at night. This is due to the night blind spot that exists during low illumination. Marines must learn to use off-center vision. This technique requires viewing an object by looking 6 to 10 degrees above, below, or to either side of the object rather than directly at it.

3. Search field of view using the scanning method.

- Scanning enables the Marines to overcome many of the physiological limitations of their eyes. It can also reduce confusing visual illusions. This technique involves looking from right to left or left to right using a slow, regular scanning movement as shown in figure 1. At night, it is essential to avoid looking directly at a faintly visible object when trying to confirm its presence.

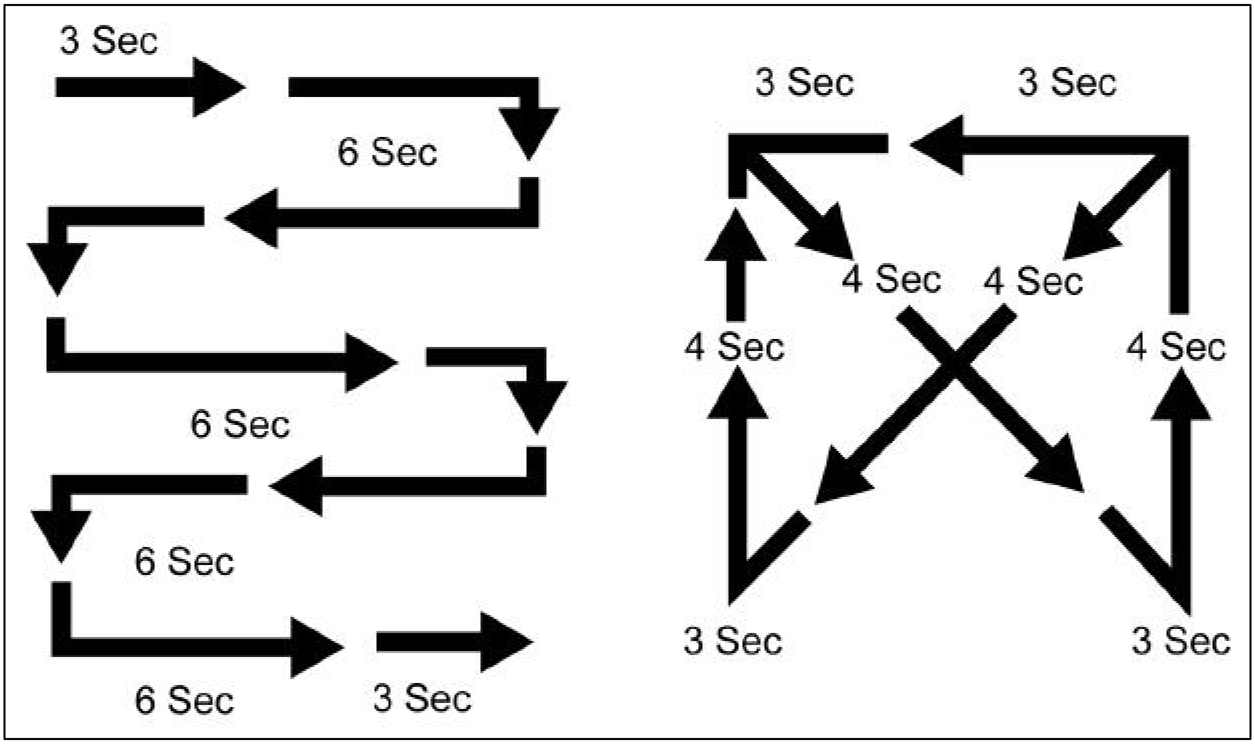


Figure 1

4. Search field of view using the strip method.

- In daylight, look first at the ground nearest you. Begin observing close to your post and search a narrow strip 50 meters or less deep, going from right to left parallel to your front. Then search from left to right a second and similar strip farther away, but overlapping the first. Continue to observe until the entire field of view has been searched as shown in figure 2.

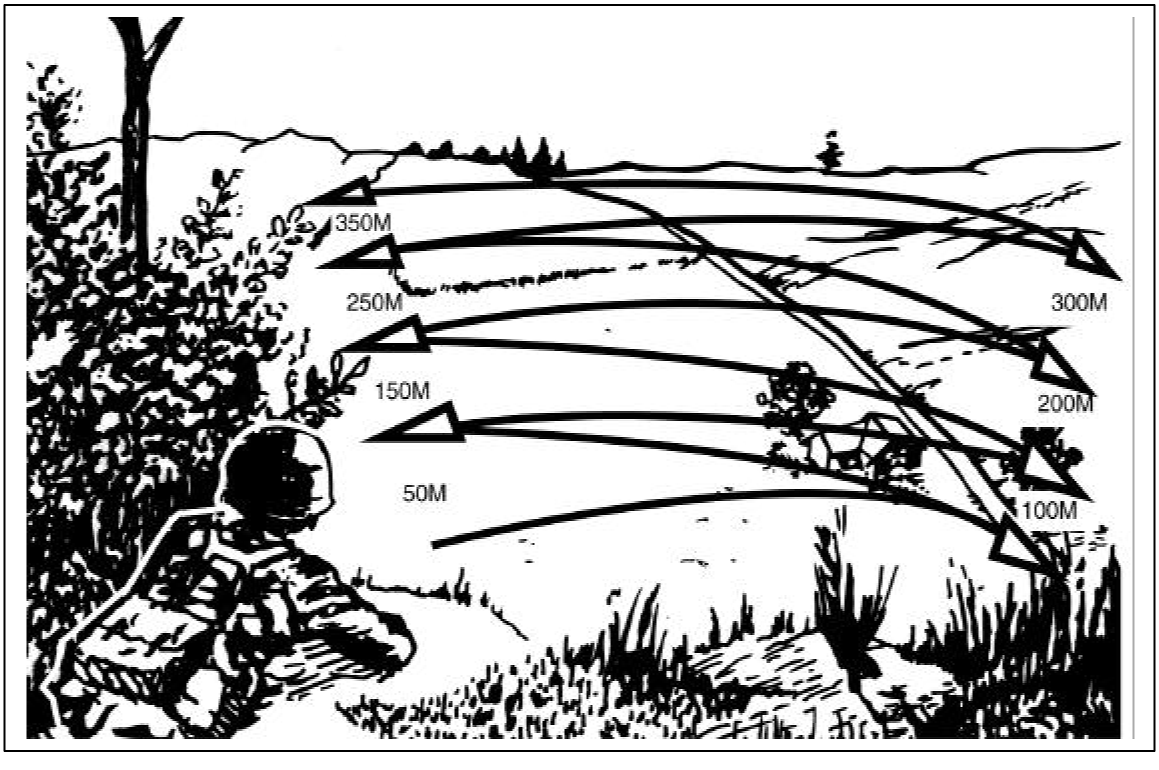


Figure 2

5. Preserve night vision when subjected to lighted areas or illumination.

a. When entering a lighted area or observing in a temporarily lighted area such as illumination and flares, one eye should be closed and covered to preserve its night vision.

b. When the light goes off, fades, or the lighted area is exited, the night vision retained by the protected eye enables it to see until the other eye adapts to the darkness.

c. Red light helps preserve night vision, but like white light, it can be observed at long distances.

d. Factors that decrease night visual acuity include fatigue, lack of oxygen, long exposure to sunlight, alcohol, nicotine within the pass 48 hours, and age.

e. When night vision has been attained, straining will not improve effectiveness; however, practicing to identify objects at night will improve perception.

6. Demonstrate techniques that enhance hearing.

a. Hearing is amplified with the mouth open.

b. Removing the helmet will reduce sound distortion.

c. By holding the ear close to the ground, sounds of people walking and vehicles moving can be heard.

REFERENCE(S):

MCWP 3-11.3, *Scouting and Patrolling*
FM 7-8, *Infantry Rifle Platoon and Squad*

TASK: **MCCS.13.02 (CORE) IDENTIFY TYPES OF THREAT WEAPONS**

CONDITION: **GIVEN A VARIETY OF THREAT WEAPONS.**

STANDARD: **TO DISTINGUISH THREE OF FIVE WEAPONS.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

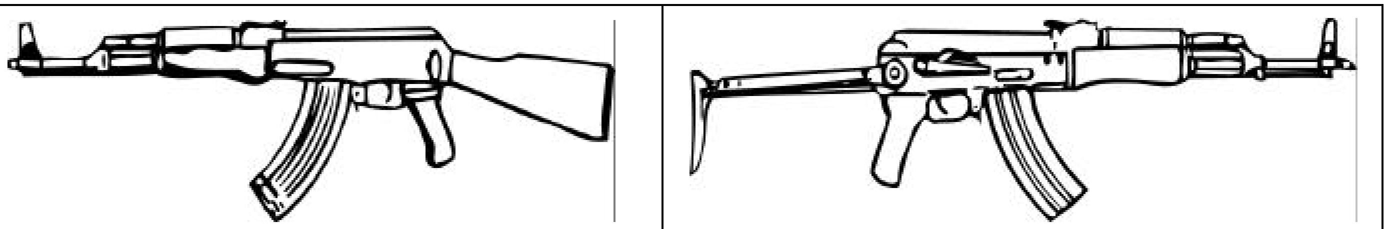
Condition: Given photographs, models, or actual threat weapons.

Standard: The Marine must distinguish three of five weapons using photographs, models, or actual weapons.

PERFORMANCE STEPS:

1. *Identify AK series threat weapons.*

a. The AK 47 7.62mm assault rifle was first manufactured in 1947. The AKM 7.62mm assault rifle was an improvement of the AK 47. Both the AK 47 and AKM come with either a standard stock or folding stock as shown in figure 1.



AK 47 and AKM standard stock **AK 47 and AKM folding stock**

Figure 1

(1) The AK 47 receiver is made from forged metal. The gas ports run horizontally along the gas tube. The AKM is made from stamped metal and has a cyclic rate reducer located in the receiver and has the gas ports located vertically at the beginning of the gas tube.

(2) Characteristics of the AK 47 and AKM weapons are listed below.

(a) Ammunition: 7.62 x 39mm, ball or tracer

(b) Magazine: 30 round, box type, detachable

(c) Operation: gas, selective fire

(d) Maximum effective range: 300 meters

(e) Cyclic rate of fire: 640 rounds per minute

b. The AK 74 5.45mm assault rifle, as shown in figure 2, may have either a wooden or skeleton stock and looks like an AKM with a muzzle brake.

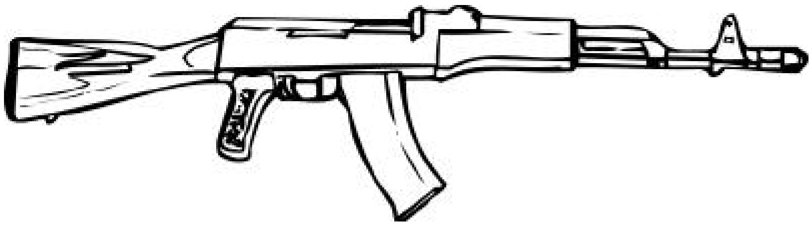


Figure 2

- Characteristics of the AK 74 weapon are listed below.

  (a) Ammunition: 5.45 x 39mm, ball or tracer

  (b) Magazine: curved plastic, 30 round

  (c) Operation: gas, selective fire

  (d) Maximum effective range: 400 meters

  (e) Cyclic rate of fire: 650 rounds per minute

2. Identify RPK series threat weapons.

a. The RPK 7.62mm light machinegun (LMG), as shown in figure 3, is a larger, heavier variant of the AKM 7.62 assault rifle. The RPK has a chrome-plated barrel, chamber, and gas piston. A cyclic rate reducer is built into the trigger mechanism. Luminous night sights may be installed on the front and rear sights. Most of the RPK's moving parts are interchangeable with those of the AKM 7.62 mm assault rifles. The RPK is a folding stock version used by airborne soldiers.

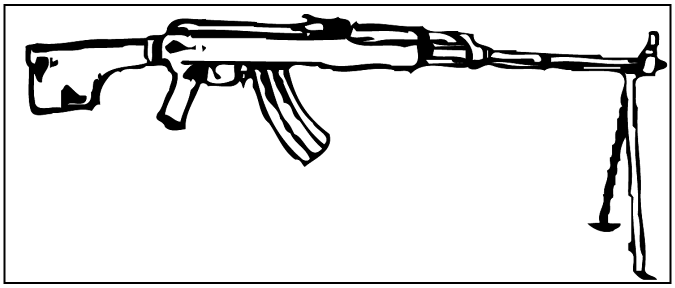


Figure 3

- Characteristics of the RPK 7.62mm LMG are listed below:

  (a) Bipod: stamped metal

  (b) Buttstock: wooden; heavier than the AKM

  (c) Night sight: infrared, compatible with some RPKs

  (d) Receiver: modified from the AKM receiver to fit the larger diameter barrel

  (e) Barrel: longer, heavier, and larger in diameter than the AKM's barrel; chrome plated

  (f) Magazine:

    1. 30 round, curved, box type is interchangeable with the AKM

    2. 40 round, curved box type

    3. 75 round, spring-loaded, drum type

b. The RPK 74 5.45mm LMG is shown in figure 4. Most of this weapon's moving parts are interchangeable with those of the AK 74 5.45mm assault rifles.

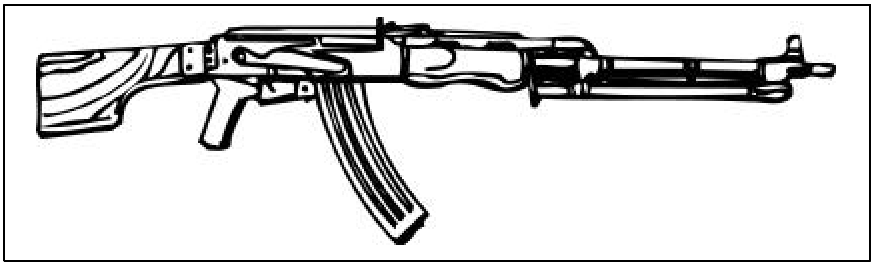


Figure 4

- Characteristics of the RPK 74 5.45mm LMG are listed below.

  (a) Bipod: stamped metal

  (b) Buttstock: wooden; heavier than the AKM

  (c) Night sight: infrared, compatible

  (d) Receiver: modified from the AKM receiver to fit the larger-diameter barrel

  (e) Barrel: longer, heavier, and larger in diameter than the AK 74's barrel

  (f) Muzzle: not as prominent as the AK 74

  (g) Magazine

    1. 30 round, curved, box type is interchangeable with the AK 74 magazine

    2. 40 round, curved box type

3. *Identify SKS series threat weapons.*

- The SKS 7.62mm Carbine, as shown in figure 5, was the basis for the later AK series of weapons. Some Chinese manufactured SKSs can use the detachable magazine from the AK 47. The weapon is loaded from the top. An easily recognizable feature is a folding knife type bayonet that is permanently attached under the barrel.

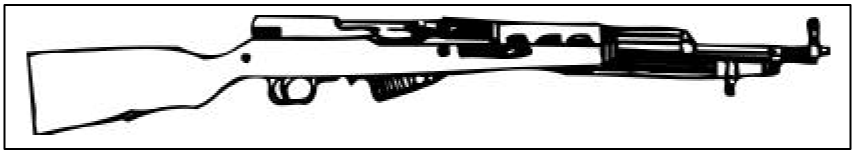


Figure 5

- Characteristics of the SKS 7.62mm Carbine weapon are listed below.

  (a) Ammunition: 7.62 x 39mm, ball or tracer

  (b) Magazine: 10 round, box type, internal

  (c) Operation: gas, semi auto only

  (d) Maximum effective range: 400 meters

4. *Identify SVD series threat weapons.*

- SVD 7.62mm Dragonov sniper rifle, as shown in figure 6, has a similar bolt mechanism and gas recovery system as the AKM.

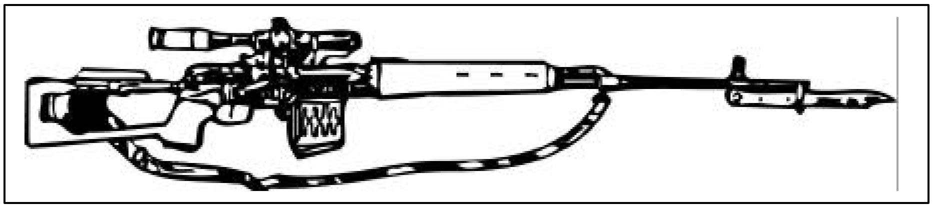


Figure 6

- Characteristics of the SVD 7.62mm Dragonov are listed below.

  (a) Ammunition: 7.62 x 54Rmm rimmed

  (b) Magazine: 10 round, box type, detachable

  (c) Operation: gas, semiautomatic

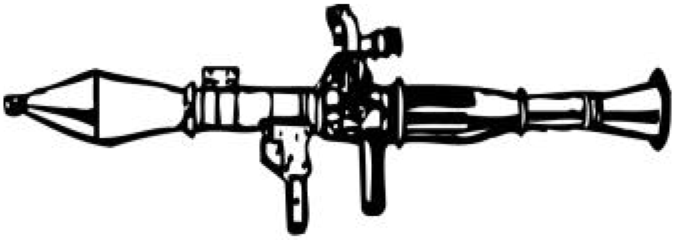
  (d) Maximum effective range: 1,300 meters

  (e) PSO-1 Scope, 4 power mounted on top

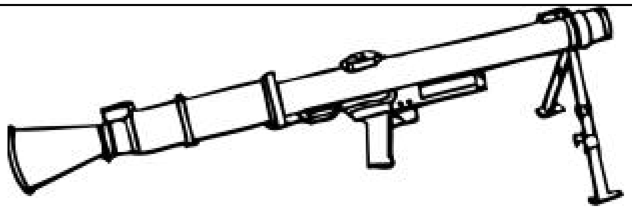
  (f) Night sights are available

5. *Identify the rocket propelled grenade threat weapon.*

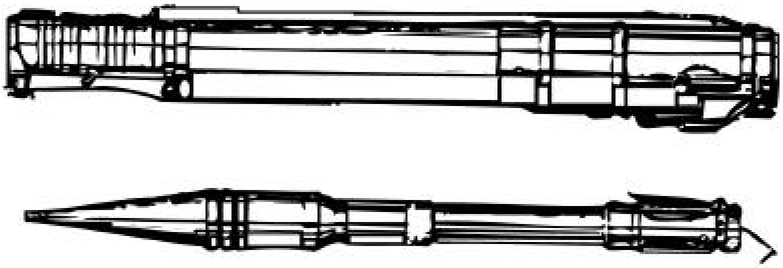
- The RGP-7, RPG-16, and RPG 18 are examples of rocket propelled grenade launchers as shown in figure 7.



RPG-7



RPG-16



RPG-18

Figure 7

- Characteristics of rocket propelled grenade launchers are listed below.

  (a) Smooth-bore, muzzle-loading, recoilless weapon

  (b) Fin-stabilized, shaped-charge

  (c) Antitank and antipersonnel HEAT grenades

  (d) Ammunition: 40 to 73mm

  (e) Caliber: warhead is at least 80mm in diameter

  (f) Diameter: launch tube, 40mm

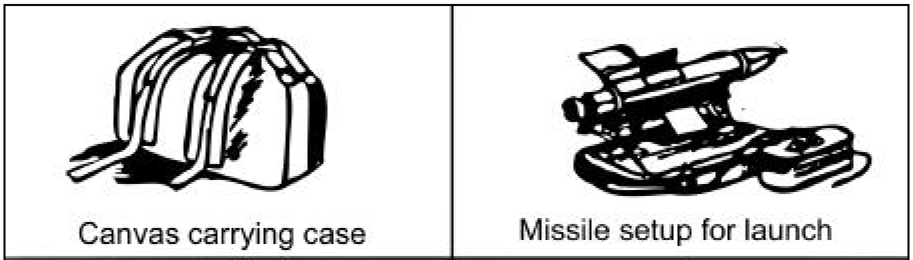
  (g) Length: 950mm

  (h) Penetration: 175 to 320mm

  (i) Range: maximum effective, 150 meters to 300 meters

6. *Identify the SAGGER threat weapon.*

- The Sagger antitank guided missile with carrying case and mount is shown in figure 8.


Canvas carrying case
Missile setup for launch

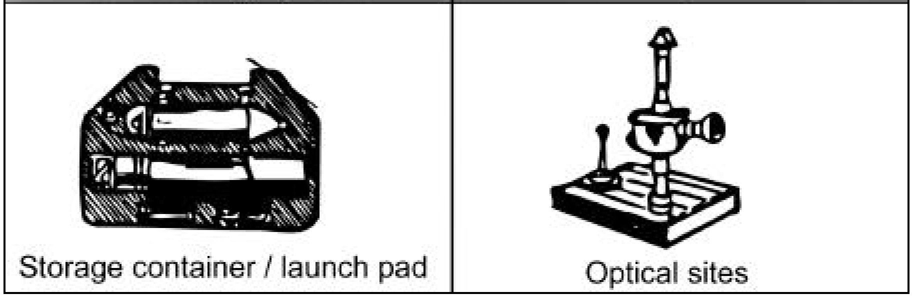

Storage container / launch pad
Optical sites

Figure 8

(1) Characteristics of the Sagger antitank guided missile are listed below.

(a) Employed on the ground while the crew is “buttoned up” or mounted on a BMP, BMD, or BRDM-2 armored personnel carrier, or helicopter

(b) Can defeat most known armor

(c) Does not have night vision capability

(d) Optical viewer for tracking target and missile

(e) The gunner must track the target and the missile through an optical viewer and steer, while using a joystick at the same time

(2) Distinguishing characteristics of the Sagger antitank guided missile are listed below.

(a) Tracking optical

(b) Wire guided

(c) Minimum tracking range: 500 meters

(d) Maximum effective range: 3,000 meters

(e) Invulnerable to electronic countermeasures

(f) Highly mobile

(g) Weight: 11.3 kg

(h) Length: 864 mm

(i) Diameter: 120 mm

CAUTION: Bushes and other obstacles may break wires. Trees or heavy bushes can detonate the warhead.

REFERENCE(S):

TRADOC DCSINT, *Threat Support Directorate, OPFOR Worldwide Equipment Guide*
FM 100-65, *Capabilities Based Opposing Forces World Equipment Guide*

TASK: **MCCS.13.03 (CORE) REPORT INFORMATION**

CONDITION: **GIVEN A SITUATION TO OBSERVE.**

STANDARD: **TO IDENTIFY THE SIX ELEMENTS OF THE ENEMY SITUATION.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Without the aid of references and given a situation to observe.

Standard: The Marine must make a written and verbal report of the enemy situation.

PERFORMANCE STEPS:

1. *Draft a SALUTE report.*

- Information must be reported as quickly, accurately, and completely as possible. An established method to remember how and what to report about the enemy is to use the acronym **SALUTE**:

(1) **S**ize and/or strength

(2) **A**ctivity or actions

(3) **L**ocation and direction of movement

(4) **U**nit identification (The enemy unit may be derived from unit markings, uniforms worn, or through prisoner interrogation.)

(5) **T**ime of observation

(6) **E**quipment and weapons

EXAMPLE: "Seven enemy soldiers, traveling SW, crossed road junction on BLACK RIDGE, unit unknown, at 211300 August carrying one machinegun and one rocket launcher."

2. *Prepare a simple sketch.*

- Information difficult to describe may be given accurately on a simple sketch. The sketch may give all the necessary information or it may be used to supplement a written message. The simple sketch is easily made and read. Figure 1 shows a simple sketch that may be included with a written message. The sketch may be on a separate sheet of paper, but all necessary information must be contained in either the sketch, the message, or both.

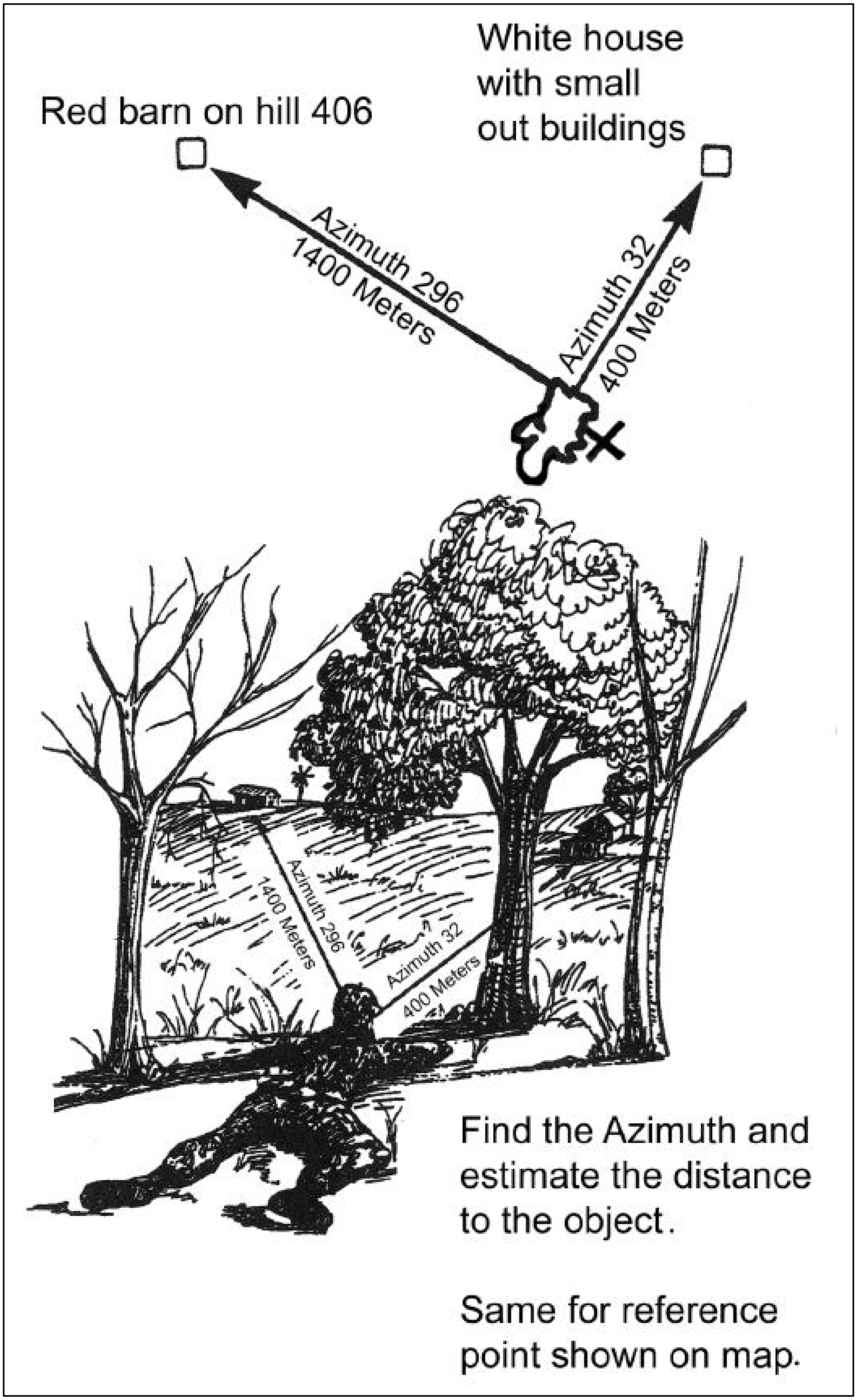

White house
with small
out buildings
Red barn on hill 406
Azimuth 296
1400 Meters
Azimuth 32
400 Meters
Azimuth 296
1400 Meters
Azimuth 32
400 Meters
Find the Azimuth and
estimate the distance
to the object.
Same for reference
point shown on map.

Figure 1

3. *Prepare a panoramic sketch.*

- The panoramic sketch is a picture of the terrain's elevation in perspective, as seen from one point of observation. Although a panoramic sketch is not difficult to create, skill and training are necessary to enhance usefulness. An illustration of how to make a panoramic sketch is shown in figure 2.

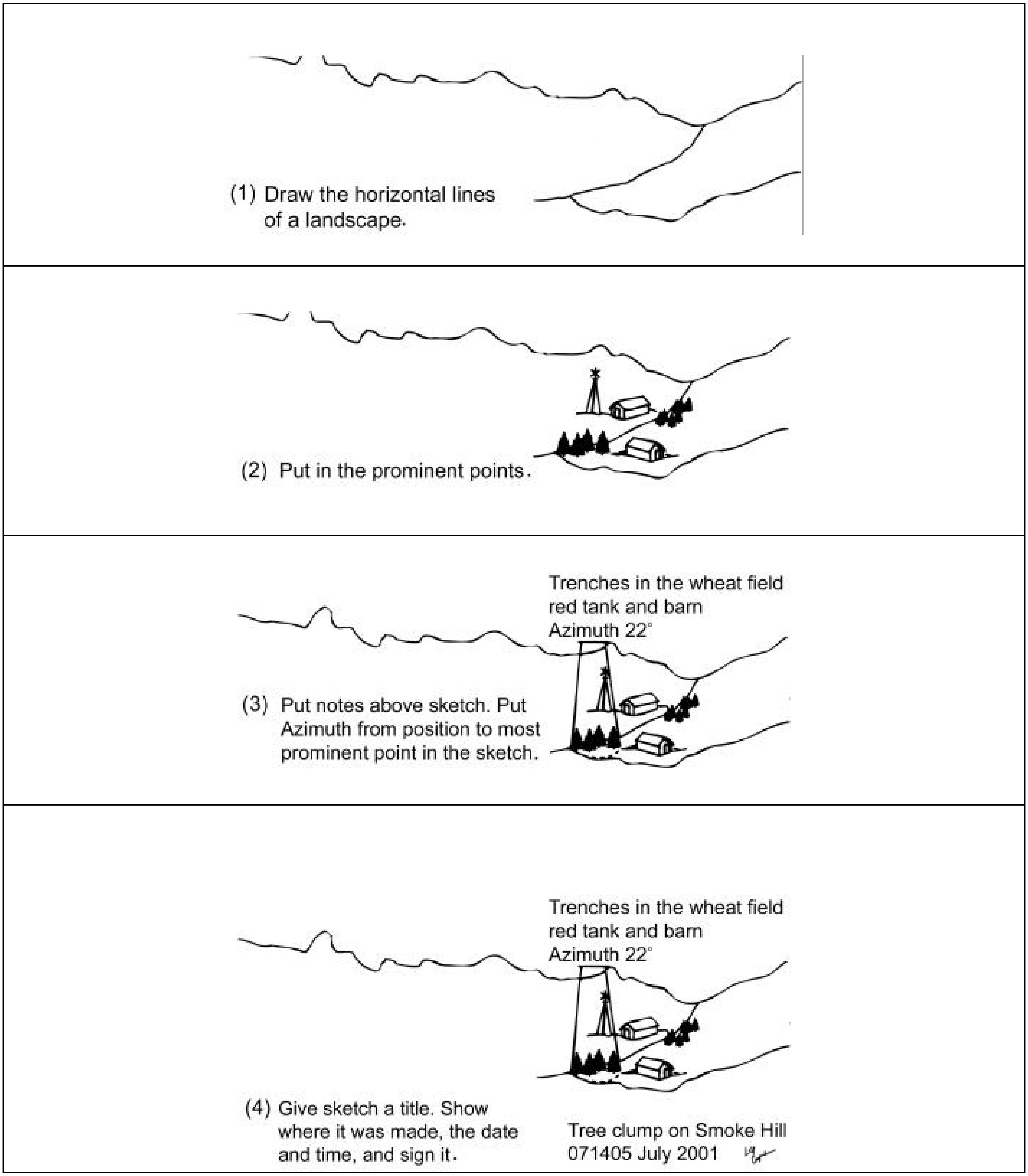

(1) Draw the horizontal lines of a landscape.
(2) Put in the prominent points.
Trenches in the wheat field
red tank and barn
Azimuth 22°
(3) Put notes above sketch. Put Azimuth from position to most prominent point in the sketch.
Trenches in the wheat field
red tank and barn
Azimuth 22°
(4) Give sketch a title. Show where it was made, the date and time, and sign it.
Tree clump on Smoke Hill
071405 July 2001

Figure 2

4. Communicate a SALUTE report.

- Execute performance step 1.

REFERENCE(S):

MCWP 3-11.3, *Scouting and Patrolling*

TASK: **MCCS.13.04 (CORE) PREPARE FOR A PATROL**

CONDITION: **GIVEN A WARNING ORDER, PATROL ORDER, 782-GEAR, ASSIGNED WEAPON, AND ASSIGNMENT AS A MEMBER OF A SQUAD-SIZE PATROL.**

STANDARD: **TO ACHIEVE SIX OF EIGHT INSPECTION REQUIREMENTS.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a warning order, patrol order, 782-gear, assigned weapon, and assignment as a member of a squad-size patrol.

Standard: The Marine must achieve six of eight inspection requirements per the reference.

PERFORMANCE STEPS:

1. *Camouflage self and equipment.*

a. Cover exposed body parts such as the face, back of the neck, and hands with grease paint, mud or other materials to reduce sun reflection.

(1) Shiny areas (forehead, cheekbones, nose, and chin) are painted with a dark color. Shadow areas (around the eyes, under the nose, and under the chin) are painted with a light color. Skin that is exposed on the back of the neck and hands is painted with a two-color combination in an irregular pattern.

(2) When standard issue face paint sticks are not available, burnt cork, charcoal, or lamp black can be used to tone down exposed areas of skin.

(3) Mud is used only in an emergency, because it changes color as it dries and may peel off leaving the skin exposed. Wash mud off as soon as possible since it may contain harmful bacteria.

b. Cover any equipment that reflects light with a non-reflective material that aids in the concealment of the weapon (for example, black electrical tape or mud). The straight line of the rifle or other infantry weapons may be very conspicuous to an enemy observer. Wrap the barrel and hand guard with strips of contrasting colored cloth or tape to break the regular outline. Mud or dirt dulls the reflecting surface of the stock, barrel, and bayonet where coloring has been worn. Lamp black may also be used on metal parts. The function of the weapon must not be impaired.

c. Camouflage the helmet by breaking up its shape, smooth surface, and shadow. Use of a helmet cover works best. In the absence of a helmet cover, mud can be irregularly blotched on the helmet to disguise its form and dull the surface. A helmet cover may be improvised from irregularly colored cloth or burlap to blend with the background. Foliage can be draped to prevent the visor of the helmet from casting a dark shadow across the face. Foliage should not stick up like plumes because any head movement will give away the position.

2. *Eliminate items of intelligence value other than identification tags and identification card.*

- Do not carry anything that is likely to assist the enemy in gathering information should a member of the patrol be captured. The following are examples of items that must not be carried:

(1) Marked maps

(2) Notebooks containing information

(3) Unit badges or titles

(4) Letters or photographs

3. *Ensure all required gear is present.*

- From the warning order shown in figure 1, all required gear that the Marine should have is listed in columns 4, 6, and 7.

WARNING ORDER

A. SITUATION 1) ENEMY: ____________________

2) FRIENDLY: ____________________

B. MISSION ____________________

____

C. GENERAL INSTRUCTIONS: ____________________

1. NAME	2. CHAIN OF COMMAND	3. GEN ORG. (ELEMENTS)	4. SPEC. ORG. (TEAMS)	5. DUTIES	6. ARMS AMMO & EQUIP	7. GEAR COMMON TO ALL	TIME SCHEDULE			
							WHEN	WHAT	WHERE	WHO

D. SPECIFIC INSTRUCTIONS:

____

____

____

Figure 1

4. *Eliminate unnecessary equipment and weight.*

- All excess gear that is not listed in the warning order will be secured at the designated cache point.

5. *Recall the mission, planned routes, and the fire support plan.*

- Table 1 shows an example of what a five-paragraph patrol order would include. State verbatim from paragraph 2 the patrol's mission, including the Commander's intent.

FIVE PARAGRAPH ORDER (SMEAC)		
1	Situation	a. Environment. Weather, terrain, visibility, local population situation, and behavior as they impact on the patrol and enemy forces. b. Enemy Forces. Consists of the composition, disposition, location, movement, capabilities, and recent activities of the enemy forces. c. Friendly Forces. A statement of the mission of the next higher unit, location and mission of adjacent units, and mission of non-organic supporting units that may affect the actions of the unit. d. Attachments and Detachments. Units attached to or detached from the patrol by higher headquarters, including the effective time of attachment or detachment.
2	Mission	A clear, concise statement of the task that the patrol must accomplish.
3	Execution	a. Concept of Operations. The concept of operation is the patrol leader's brief summary of the tactical plan the patrol is to execute. (5) Task organization of the patrol. (6) Movement to the objective area to include navigation method. (7) Actions in the objective area. (8) The return movement to include navigation method. (9) Use of supporting forces, including illumination if required. b. Subordinate Tasks (Missions). In each succeeding paragraph, missions are assigned to each element and any attached units. c. Coordinating Instructions. In the last paragraph, instructions that apply to two or more subordinate elements, coordination of details, and control measures applicable to the patrol as a whole. (10) (1) Time of assembly in the assembly area. (11) (2) Time of inspections and rehearsals that have not already been conducted. (12) (3) Time of departure and estimated time of return. (13) (4) Location of departure and re-entry of friendly lines, and actions associated with departure and reentry. (14) (5) Details on the primary and alternate routes to and from the objective area. (15) Details on formations and order of movement. (16) Rally points and actions at rally points. (17) Final preparation position and actions at this point. (18) Objective rally point and actions at this point. (19) Actions at danger areas. (20) (11) Actions in the event of enemy contact. (12) Details on actions in the objective not covered elsewhere. (a) (13) Estimate time of patrol debriefing upon return.
4	Administration and Logistics	This paragraph contains information or instructions pertaining to rations and ammunition; location of the distribution point, corpsman, and aid station; the handling of prisoners of war; and other administrative and supply matters.
5	Command and Signal	a. Special instructions on communications, including prearranged signals, password and countersign, radio callsigns and frequencies, emergency signals, radio procedures, pyrotechnics, and restrictions on the use of communications. b. Location of patrol leader. c. Location of assistant patrol leader. d. Location of subordinate leaders.

Table 1

6. Recall own mission responsibilities.

- From paragraph 3, subparagraph b of the patrol order, recall the individual's mission responsibilities.

7. Recall the responsibilities of others as they pertain to self.

- From paragraph 3, subparagraph b of the patrol order, recall the individual's mission responsibilities.

8. Recall challenges and passwords, codes, radio callsigns, frequencies, and reporting times, as appropriate.

- From paragraph 5, subparagraph a of the patrol order, recall challenges and passwords, codes, radio callsigns, frequencies, and reporting times, as appropriate.

9. Perform individual actions during rehearsals.

- Perform the following individual actions during rehearsals:

  (1) Actions at the objective

  (2) Actions at danger areas

  (3) Actions on enemy contact

  (4) Departure and reentry of friendly lines

  (5) Maintaining security during movement and halts

  (6) Actions at rally points

REFERENCE(S):

MCWP 3-11.3, *Scouting and Patrolling*

TASK: **MCCS 13.05 (CORE) PASS THROUGH LINES**

CONDITION: **GIVEN A PATROL ORDER, 782-GEAR, ASSIGNED WEAPON, A ROUTE GUIDE, AND ASSIGNMENT AS A MEMBER OF A SQUAD-SIZE PARTOL.**

STANDARD: **TO MEET MISSION REQUIREMENTS AND WITHOUT DETONATING AN EARLY WARNING DEVICE PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a patrol order, 782-gear, assigned weapon, a route guide, and assignment as a member of a squad-size patrol.

Standard: To meet mission requirements and without detonating any early warning devices per the reference.

PERFORMANCE STEPS:

1. *Maintain noise and light discipline*.

a. Silence is essential at all times. With practice, it is possible to move at reasonable speed in comparative silence. Marines should move steadily and carefully, parting undergrowth rather than crashing through. Avoid treading on dry leaves, sticks, rotten wood, etc.

b. Light discipline is essential at all times. Only the patrol leader will designate what type of light will be used at halts while on patrol.

2. *Provide security.*

- The patrol is dispersed consistent with control, visibility, cover, and concealment. Scouts are employed to the front, flanks, and rear of the patrol to provide security. For the patrol members traveling in the main body of the patrol, areas of responsibility are assigned to the front, flanks, and rear. Scouts are the eyes and ears of the patrol leader. They move when and where directed by the patrol leader and maintain contact with the patrol leader at all times, except when momentarily obscured by vegetation or other terrain features.

3. *Perform individual movement as a member of a patrol.*

a. The principles of individual movement are as follows:

(1) Scouts move from one concealed position to another. When not changing positions, they remain motionless.

(2) The scout's head is lifted slowly and steadily, without abrupt movements, to search for a new position.

(3) Scouts select the next stopping place before moving, and ensure the enemy does not contain it.

(4) Scouts change position on the run—springs up, runs with the body bent low, zigzags, quickly drops to the ground slightly to the right or left of the objective, then rolls or crawls to the desired position. Remember the phrase, "I'm up, he sees me, I'm down."

b. Rushing

(1) When starting from the prone position, raise the head slowly and steadily; select a new position.

(2) Lower the head slowly, draw arms inward, cock right leg forward, and prepare to rush.

(3) Use one movement to raise the body by straightening both arms. Spring to your feet, stepping off with the left foot.

(4) Bend forward as low as possible when running. Never advance directly to the next position; always zigzag.

c. Hitting the deck

  (1) Stop, and then plant both feet in place. Drop quickly to the knees and slide the hand to the heel of the rifle.

  (2) Fall forward, breaking your fall with the butt of the rifle.

  (3) To confuse the enemy, roll over after hitting the deck and roll into firing position with feet, knees, and stomach flat on the ground.

  (4) Keep head down if you do not intend to fire.

d. Rolling over

  (1) Hit the deck and assume the prone position.

  (2) Bring the rifle in close to the body, placing the rifle butt in the crotch.

  (3) Roll over swiftly to confuse any enemy observers as to final intended location.

  (4) Never reappear at the same place you went down.

e. Low crawl

  (1) The low crawl is used when cover and concealment are scarce, and when the enemy has good observation over the area in which the scout is moving.

  (2) Speed is not essential.

  (3) Keep the body as flat as possible against the ground.

  (4) Grasp the rifle sling at the upper sling swivel.

  (5) Let the balance of the rifle rest on the forearm and let the butt of the rifle drag on the ground.

  (6) Keep the muzzle off the ground.

  (7) To start forward, push the arms forward and pull the right leg forward.

  (8) To move forward, pull with the arms and push with the right leg.

  (9) Change the pushing leg frequently to avoid fatigue.

f. High crawl

  (1) The high crawl is used when cover and/or concealment are available.

  (2) Poor visibility reduces enemy observation.

  (3) Greater speed of movement is required.

  (4) Keep body off the ground.

  (5) Rest weight on the forearms and lower legs.

  (6) Cradle rifle in arms, keeping the muzzle off the ground.

  (7) Keep the knees well behind the buttocks to stay low.

  (8) Move forward, alternately advancing the right forearm and left knee; then left forearm and right knee.

4. *Travel though the gaps or lanes in obstacle plan as directed by the patrol leader.*

- Individuals may be assigned collateral tasks performed throughout the patrol. Individual elements will usually depart exits at staggered times and at different movement rates, especially where sentries cannot provide cover. This technique is used when the environment adjacent to the patrol base is dangerous. Once an element has exited friendly lines, a short halt is conducted in a predetermined, covered initial rally point 50 to 100 meters from the base. This ensures all elements are in position before the patrol continues.

REFERENCE(S):

MCWP 3-11.3, *Scouting and Patrolling*

TASK: **MCCS.13.06 (CORE) PERFORM INDIVIDUAL ACTIONS IN A SECURITY PATROL**

CONDITION: **GIVEN A PATROL ORDER, 782-GEAR, AN ASSIGNED WEAPON, AND AN ASSIGNMENT AS MEMBER OF A SQUAD-SIZE PATROL.**

STANDARD: **TO PERFORM ASSIGNED DUTIES AND WITHOUT COMPROMISING THE PATROL.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a patrol order, 782-gear, an assigned weapon, and an assignment as a member of a squad-size patrol.

Standard: The Marine must perform individual actions in a security patrol without compromising the patrol per the reference.

PERFORMANCE STEPS:

1. Prepare for a patrol.

a. For a patrol to succeed, all members must be well trained, briefed, and rehearsed.

b. The patrol leader must have a complete understanding of the mission and a thorough understanding of the enemy and friendly situations.

c. The patrol leader should make a complete reconnaissance of the terrain to be covered (either visual or map), and issue an order to the patrol, supervise preparations, and conduct rehearsals.

2. Prepare individual actions during passage of lines.

a. A passage of lines is an operation in which a force moves forward or rearward through another force's combat positions with the intention of moving into or out of contact with the enemy.

b. During the initial preparation for the patrol, the patrol leader selects a patrol assembly area and reconnoiters the area of passage designated by the commander.

c. In coordination with the unit commander responsible for the area of passage, the patrol leader identifies gaps or lanes in minefields and wire obstacles and locates local security elements through which the patrol will pass.

d. The patrol leader checks the route from the patrol assembly area to the passage point or contact point where the patrol will depart friendly lines. If possible, both the route to the passage point and the route through the frontlines should be concealed from the enemy's view.

3. Perform individual actions at halts.

a. Speed of movement is slower at night than in day patrols and reduces the danger of a Marine becoming separated from the patrol. The patrol occasionally halts to observe and listen for enemy activity; this is called a security halt. Upon signal, when reaching a danger area and periodically throughout movement, every member freezes in place, remains quiet, observes, and listens.

b. It may be necessary to call a security halt just after departing friendly areas and just before entering friendly areas. The patrol may halt briefly to send a message, eat, rest, check direction, or make a reconnaissance. The area selected should provide adequate concealment and cover, as well as favor the defense. All-round security is established and the patrol leader ensures all members move out when the patrol resumes movement.

4. On order, occupy rally points.

a. A rally point is an easily identifiable point on the ground where units can reassemble and reorganize if they become dispersed. It should

(1) Provide cover and concealment

(2) Be defensible for at least a short time

(3) Be easily recognized and known to all patrol members.

b. All rally points are considered and identified as tentative rally points until they are occupied, found to be suitable, or designated as rally points by the patrol leader.

5. Perform individual precautions while crossing danger areas.

- A danger area is any place where the patrol is vulnerable to enemy observation or fire (open areas, roads, trails, and obstacles such as barbed wire, minefields, rivers and streams, and lakes). Any known or suspected enemy position the patrol must pass is also a danger area. The patrol leader

(1) Plans for crossing each danger area and includes these plans in the order

(2) Connoiters the near side of a danger area first then sends scouts to reconnoiter the far side

(a) Once the scouts report that the far side is clear of the enemy, the remaining patrol crosses the danger area.

(b) As each individual or group crosses the danger area, they are covered by those remaining and by those who have successfully crossed. Enemy obstacles are avoided since they are usually covered by fire.

6. Perform immediate actions upon contact with the enemy.

a. Immediate actions are designed to provide swift and positive small unit reaction to visual or physical contact with the enemy. They are simple courses of action in which all Marines are well trained. Minimal signals or commands are required and they are developed as needed for the combat situation. Any member of the unit may initiate signals.

b. It is not feasible to attempt to design an immediate action drill to cover every possible situation. It is better to know the immediate action drill for each of a limited number of situations that may occur during a patrol.

7. Disseminate information.

- The following information should be provided:

(1) A simple, straightforward explanation of the mission, particularly for night patrols

(2) General routes (defined by checkpoints) or exact routes (defined by avenues of approach or other terrain features) to follow

(3) Enemy composition, disposition, and strength

(4) Location and activities of friendly troops

(5) Outposts or other security elements through which the patrol is to pass

(6) Terrain conditions

(7) Missions and routes of other patrols

REFERENCE(S):

MCWP 3-11.3, *Scouting and Patrolling*

TASK: **MCCS.13.07 (CORE) PERFORM INDIVIDUAL PRECAUTIONS WHILE CROSSING A DANGER AREA**

CONDITION: **GIVEN A PATROL ORDER, 782-GEAR, ASSIGNED WEAPON, AND ASSIGNMENT AS A MEMBER OF A SQUAD-SIZE PATROL.**

STANDARD: **TO PERFORM ASSIGNED DUTIES AND WITHOUT COMPROMISING THE PATROL.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a patrol order, 782-gear, assigned weapon, and assignment as a member of a squad-size patrol.

Standard: Perform assigned duties without compromising the patrol.

PERFORMANCE STEPS:

1. Check for enemy presence.

a. The Marine should use a combination of the five senses. The following inconsistencies are indicators of enemy presence.

(1) Straight lines not occurring naturally

(2) Vegetation that is out of place with the surrounding area

(3) Inconsistent smells in the area

(4) Manmade sounds or lack of normal animal sounds

(5) Freshly disturbed vegetation, rocks, or dirt

b. The examination of vacated enemy positions provides valuable information. The size of a bivouac or defense area ordinarily indicates the number of enemy occupants. Clothing, ration containers, dumps, etc., further indicate the quantity of the departed enemy force. The condition of the bivouac area and the mount of material abandoned gives an indication of the enemy morale, training, and discipline. A well-policed area indicates good discipline. Rubbish, ration and smoking residue, and nonessential personal items of equipment adrift indicate a lower state of morale, training, and discipline. Stores and material left behind in good condition may indicate a hasty movement or withdrawal. Burned or destroyed materials indicate a deliberate, orderly withdrawal or movement. Letters, insignia, and other articles may reveal the identity of the enemy unit.

2. Perform individual actions at halts.

- Upon given the signal to halt, the Marine should

(1) Halt behind cover or concealment. At the minimum, present a low silhouette.

(2) Remain quiet.

(3) Observe the assigned sector.

(4) Listen.

(5) Maintain contact with the patrol.

3. On order, occupy rally points.

a. Upon given the signal to occupy a rally point, the Marine should

(1) Get behind cover or concealment. At the minimum, present a low silhouette.

(2) Remain quiet.

(3) Observe the assigned sector.

(4) Listen.

(5) Maintain contact with the left and right.

b. Actions to be taken at rally points are listed in the patrol order or unit SOPs. The Marine will be evaluated using the following information:

(1) Planned actions at the initial rally point and enroute rally points provide for the continuation of the patrol as long as there is a reasonable chance to accomplish the mission

(2) Recognition signals for assembly at rally points

(3) Minimum number of members and maximum amount of waiting time required before the senior member at the rally point moves the rallied patrol members onward toward the objective or returns to friendly lines

(4) Instructions for patrol members who find themselves alone at a rally point

4. Provide cover for members crossing danger areas as directed.

- A danger area is any area the entire patrol can be destroyed at one time. Time is of the essence, the longer the patrol is in the danger area, the higher the probability of unplanned contact with the enemy. Using the bump method for small danger areas, two Marines go to the edge of the danger area, face outboard, and cover the two Marines in front of them. When the two covered Marines reach the other end of the danger area, the covering Marines proceed across. This is repeated until the entire patrol has crossed the danger area.

5. Perform crossing techniques.

– The far side of a large danger area has to be checked by a two-man point team. The evaluated Marine should be a member of this team.

(1) Zigzag quickly across.

(2) Deliberate crawl.

(3) Use depressions in the terrain.

(4) Take advantage of any cover and concealment that is in the danger area.

REFERENCE(S):

MCWP 3-11.3, Scouting and Patrolling

TASK: **MCCS.13.08 (CORE) PERFORM IMMEDIATE ACTIONS UPON CONTACT WITH THE ENEMY**

CONDITION: **GIVEN A PATROL ORDER, 782-GEAR, ASSIGNED WEAPON, AMMUNITION, AND ASSIGNMENT AS A MEMBER OF A SQUAD SIZE PATROL.**

STANDARD: **TO EXECUTE SIX OF EIGHT DRILLS CORRECTLY.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a patrol order, 782-gear, assigned weapon, ammunition, and assignment as a member of squad size patrol.

Standard: The Marine must execute six of eight drills correctly per the reference.

PERFORMANCE STEPS:

1. *Perform individual actions during an immediate halt drill.*

- Immediate Halt. When the patrol detects the enemy but is not itself detected, the situation requires the immediate, in-place halt of the patrol.

(1) The first member visually detecting the enemy gives the silent signal for freeze.

(2) Every member halts in place, weapon at the ready, and remains absolutely motionless and quiet until further signals or orders are given.

2. *Perform individual actions during an air observation drill.*

- Air Observation and/or Attack. These actions are designed to reduce the danger of detection from aircraft and casualties from air attack when an enemy or unidentified aircraft, that may detect the patrol, is heard or observed. The appropriate immediate action drill is freeze.

(1) The first member hearing or sighting an aircraft that may be a threat signals freeze. Every member halts in place until the patrol leader identifies the aircraft and gives further signals or orders.

(2) Members of the patrol must not look up at the aircraft as sunlight can reflect off their faces even when camouflaged.

3. *Perform individual actions during an air attack drill.*

a. When an aircraft detects a patrol and makes a low level attack, the immediate action drill air attack is used.

(1) The first member sighting an attacking aircraft shouts, “aircraft,” followed by the direction of the incoming attack: front, left, rear, or right.

(2) The patrol moves quickly into line formation, well spread out, at right angles to the aircraft’s direction of travel.

(3) As each member comes on line, the member hits the ground using available cover, and then positions the body perpendicular to the aircraft’s direction of travel to present the shallowest target possible.

(4) Between attacks, if the aircraft returns or if more than one aircraft attacks, patrol members seek better cover.

b. Attacking aircraft are fired upon only on command of the patrol leader’s direction of travel. To present the shallowest target attacks, patrol members seek better cover.

4. *Perform individual actions during a hasty ambush drill.*

- *Hasty Ambush*.

(1) When the signal hasty ambush is given by the point member, patrol leader, or another authorized patrol member, the entire patrol moves quickly to the right or left of the line of movement as indicated by the signal and takes up the best available concealed firing positions.

(2) The patrol leader initiates the measure; the enemy is allowed to advance until he or she is in the most vulnerable position before the ambush is initiated.

(3) An alternate means for initiating the ambush is to designate an individual; for example, point or last member to open fire when a certain portion of the enemy unit reaches or passes that member.

5. *Perform individual actions during an immediate assault drill.*

a. Immediate Assault. This immediate action drill is used defensively to make and quickly break undesired but unavoidable contact including ambush, and offensively to decisively engage the enemy including ambush.

b. When used in a meeting engagement, members nearest the enemy open fire and shout, “contact,” followed by the direction of the incoming attack: front, left, rear, or right. The patrol moves swiftly into line formation and assaults.

6. *Perform individual actions during a meeting engagement drill.*

- This immediate action is used to avoid contact and to prepare to initiate an unplanned ambush on the enemy. It may often be a subsequent action after the command freeze.

7. *Perform individual actions during a near-counter-ambush drill.*

a. Near Ambush. In a near ambush, the killing zone is under very heavy, highly concentrated, close range fires. There is little time or space for members to maneuver or seek cover. The longer they remain in the killing zone, the greater the chance they will become casualties.

b. If members in the killing zone are attacked by a near ambush, they immediately assault without order or signal directly into the ambush position, occupy it, and continue the assault or break contact, as directed. This action moves them out of the killing zone, prevents other elements of the ambush from firing on them without firing on their own members, and provides positions from which other actions may be taken.

c. Members not in the killing zone maneuver against the enemy as directed.

d. The assault continues until all patrol members are outside of the killing zone.

8. *Perform individual actions during a far-counter-ambush drill.*

a. Far Ambush. In a far ambush, the killing zone is also under very heavy, highly concentrated fires, but from a greater range. This greater range provides members in the killing zone maneuver space and some opportunity to seek cover at a lesser risk of becoming a casualty.

b. If attacked by a far ambush, members in the killing zone, without order or signal, immediately return fire, take the best available positions, and continue firing until directed otherwise.

c. Members not in the killing zone maneuver against the ambush force as directed. The assault is continued against the enemy or until the order to break contact is given.

REFERENCE(S):

MCWP 3-11.3, *Scouting and Patrolling*

AMMUNITION:

DODIC	NOMENCLATURE	INITIAL PROFICIENCY	PER ITERATION	ANNUAL SUSTAINMENT
A075	CTG 5.56MM, BLANK, LINKED	20.000 EA	20.000 EA	20.000 EA
A080	CTG 5.56MM, BLANK, LINKED	20.000 EA	25.000 EA	25.000 EA

TASK: **MCCS.14.01 (CORE) COMMUNICATE USING HAND AND ARM SIGNALS**

CONDITION: **GIVEN 10 HAND AND ARM SIGNALS FROM THE LIST OF 38.**

STANDARD: **TO DEMONSTRATE 24 SIGNALS CORRECTLY PER THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given 10 hand and arm signals from the list of 38.

Standard: To demonstrate 24 signals correctly per the references.

PERFORMANCE STEPS:

1. *Demonstrate "Decrease speed" as depicted in figure 1.*

- Extend the arm horizontally sideward, palm to the front, and wave arm downward several times, keeping the arm straight. Do not move the arm above the horizontal.

2. *Demonstrate "Change direction" as depicted in figure 2.*

- Raise the hand that is on the side toward the new direction across the body, palm to the front; then swing the arm in a horizontal arc, extending arm and hand to point in the new direction.

3. *Demonstrate "Enemy in sight" as depicted in figure 3.*

- Hold the rifle horizontally, with the stock in the shoulder, muzzle pointing in the direction of the enemy. Aim in on the enemy target and be ready to engage him if he detects your presence.

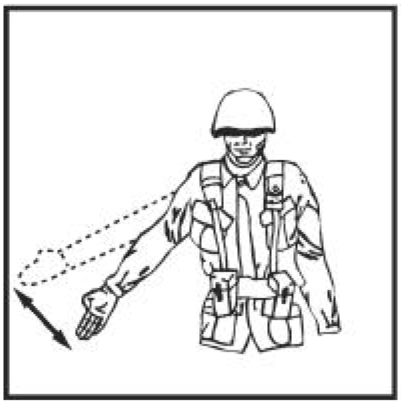
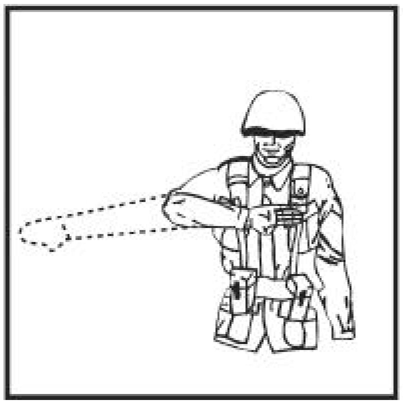


Figure 1



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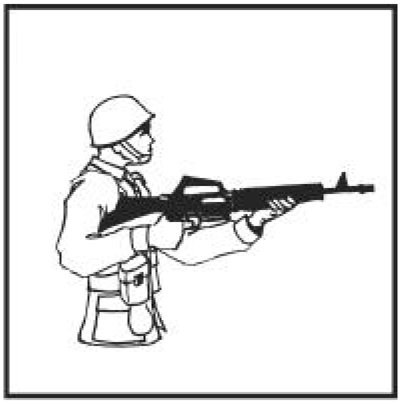


Figure 3

4. *Demonstrate "Commence firing" as depicted in figure 4.*

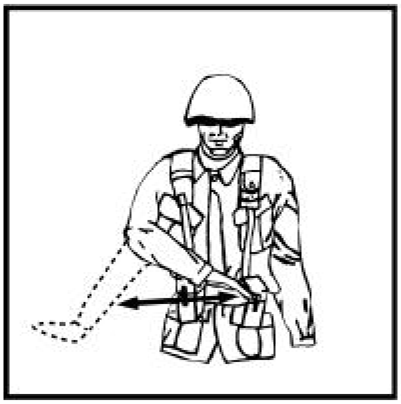
- Extend the arm in front of the body, hip high, palm down, and move it through a wide horizontal arc several times.

5. *Demonstrate "Range" as depicted in figure 5.*

- Extend the arm fully toward the leader or men for whom the signal is intended with fist closed. Open the fist exposing one finger for each 100 meters of range.

6. *Demonstrate “Cease fire” as depicted in figure 6.*

- Raise the hand in front of the forehead, palm to the front, and swing the hand and forearm up and down several times in front of the face.



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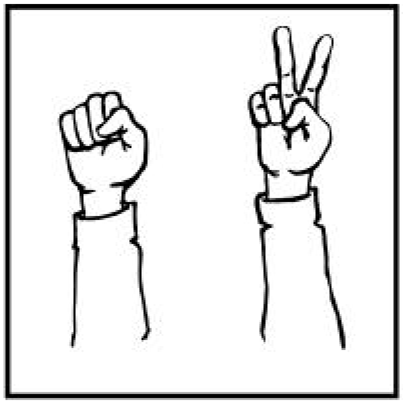


Figure 5

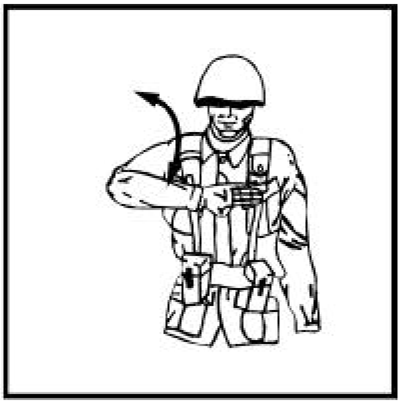


Figure 6

7. *Demonstrate “Assemble” as depicted in figure 7.*

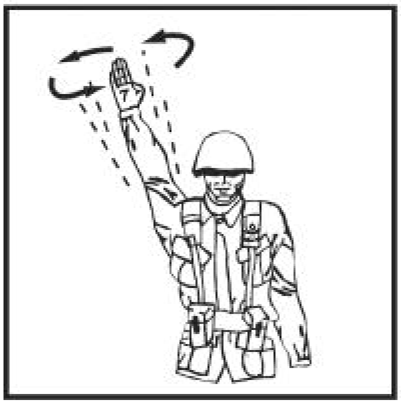
- Raise the hand vertically to the full extent of the arm, fingers extended and joined, palm to the front, and wave in large horizontal circles with the arm and hand.

8. *Demonstrate “Form column” as depicted in figure 8.*

- Raise either arm to the vertical position. Drop the arm to the rear, describing complete circles in a vertical plane parallel to the body. The signal may be used to indicate either a troop or vehicular column.

9. *Demonstrate “Are you ready/I am ready” as depicted in figure 9.*

- Extend the arm toward the leader for whom the signal is intended, hand raised, fingers extended and joined, and then raise the arm slightly above the horizontal, palm facing outward.



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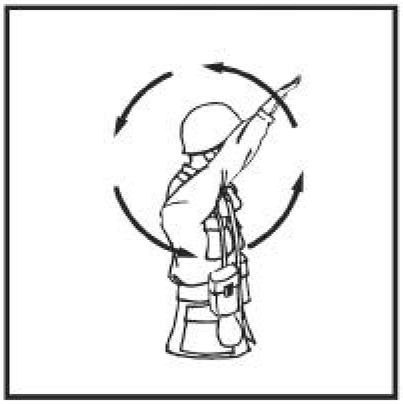

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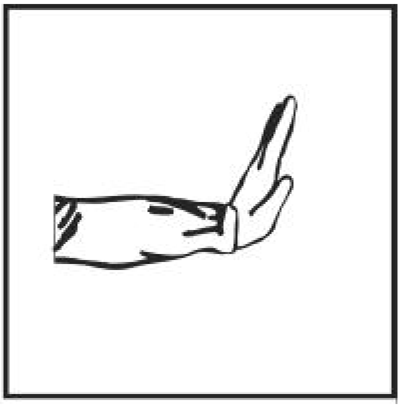


Figure 9

10. Demonstrate "Attention" as depicted in figure 10.

- Extend the arm sideways, slightly above horizontal, palm to the front; wave toward and over the head several times.

11. Demonstrate "Shift (left, right, forward back)" as depicted in figure 11.

- Point to individuals or units concerned, beat on chest simultaneously with both fists, and then point to location you desire them to move to.

12. Demonstrate "Echelon (right/left)" as depicted in figure 12.

- The leader may give this signal either facing towards or away from the unit. Extend one arm 45 degrees below the horizontal, palms to the front. The lower arm indicates the direction of echelon. (Example: for echelon right, if the leader is facing in the direction of the forward movement, the right arm is lowered; if the leader is facing the unit, the left is lowered.) Supplementary commands may be given to ensure prompt and proper execution.

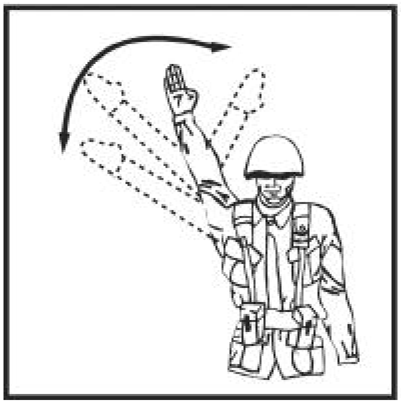


Figure 10

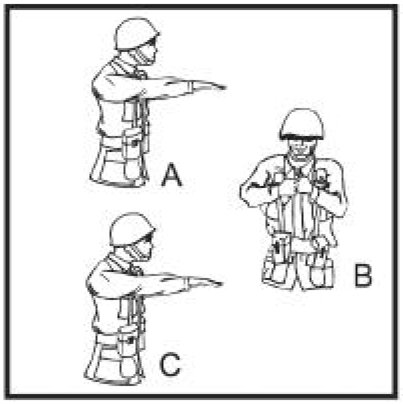


Figure 11

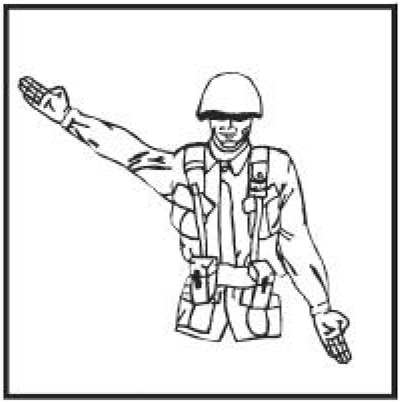


Figure 12

13. Demonstrate "Skirmishers (right/left)" as depicted in figure 13.

- Raise both arms lateral until horizontal, arms and hands extended, palms down. If it is necessary to indicate a direction, move in the desired direction at the same time. When signaling for fire team skirmishers, indicate skirmishers right or left by moving the appropriate hand up and down. The appropriate hand does not depend on the direction the signaler is facing. Skirmishers left will always be indicated by moving the left hand up and down; skirmishers right, the right hand.

14. Demonstrate "Wedge" as depicted in figure 14.

- Extend both arms downward and to the side at an angle of 45 degrees below the horizontal, palms to the front.

15. Demonstrate "V" as depicted in figure 15.

- Extend the arms at an angle of 45 degrees above the horizontal, forming the letter V with the arms and torso.

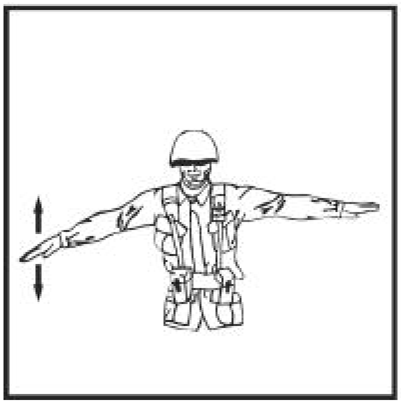
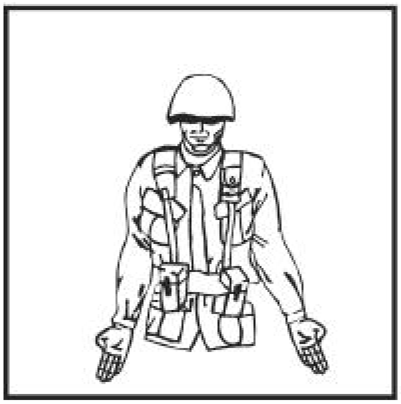


Figure 13



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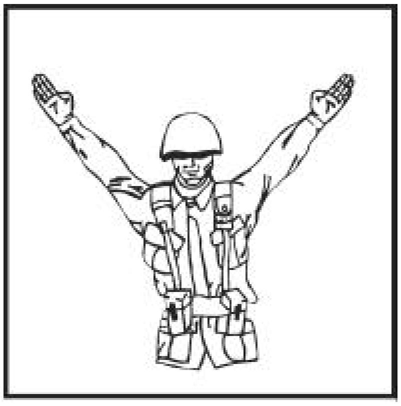


Figure 15

16. *Demonstrate "Fireteam" as depicted in figure 16.*

- The right arm should be placed diagonally across the chest.

17. *Demonstrate "Squad" as depicted in figure 17.*

- Extend the hand and arm toward the squad leader, palm of the hand down; distinctly move the hand up and down several times from the wrist, holding the arm steady.

18. *Demonstrate "Platoon" as depicted in figure 18.*

- Extend both arms forward, palms of the hands down toward the leaders (or units) for whom the signal is intended, and describe large vertical circles with hands.

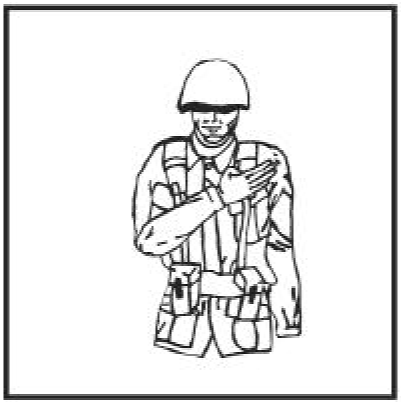
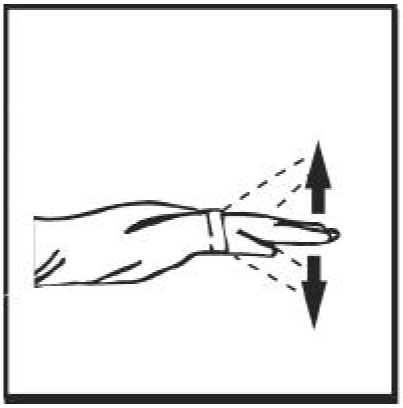


Figure 16



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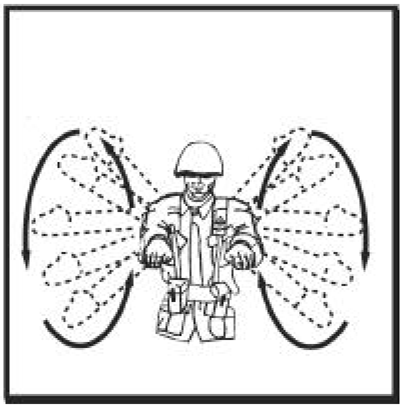


Figure 18

19. *Demonstrate "Close up" as depicted in figure 19.*

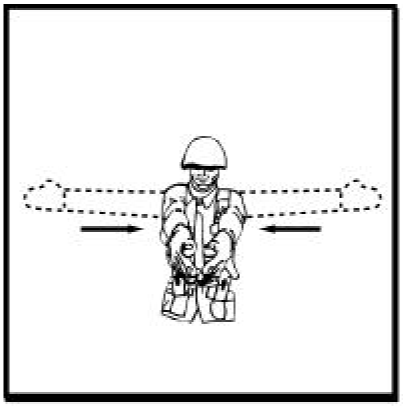
- Start the signal with both arms extended sideward, palms forward, and bring palms together in front of the body momentarily. When repetition of this signal is necessary, the arms are returned to the starting position by movement along the front of the body.

20. *Demonstrate "Open Up" as depicted in figure 20.*

- Start the signal with the arms extended in front of the body, palms together, and bring the arms to the horizontal position at the sides, palms forward. When repetition of this signal is necessary, the arms are returned along the front of the body to the starting position and the signal is repeated until understood.

21. *Demonstrate "Leaders, join me" as depicted in figure 21.*

- Extend the arm toward the leaders and beckon leaders with finger as shown.



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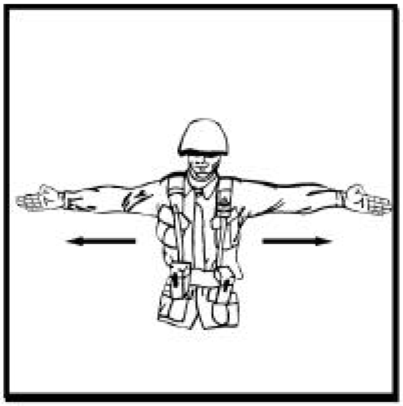

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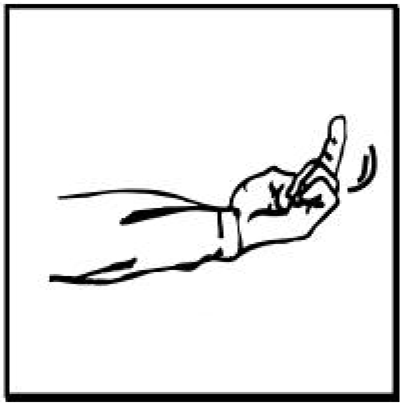


Figure 21

22.Demonstrate "I don't understand" as depicted in figure 22.

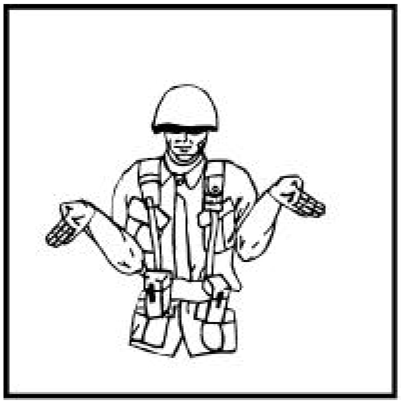
- Face toward source of signal, raise both arms sideward to the horizontal at hip level, bend both arms at elbows, palms up, and shrug shoulders in the manner of the universal, *I don't know*.

23.Demonstrate "Forward advance" as depicted in figure 23.

- Face and move in the desired direction of march; at the same time, extend the arm horizontally to the rear and then swing it overhead and forward in the direction of movement until it is horizontal, palm down.

24.Demonstrate "Halt" as depicted in figure 24.

- Carry the hand to the shoulder, palm to the front; then thrust the hand upward vertically to the full extent of the arm and hold it in that position until the signal is understood.



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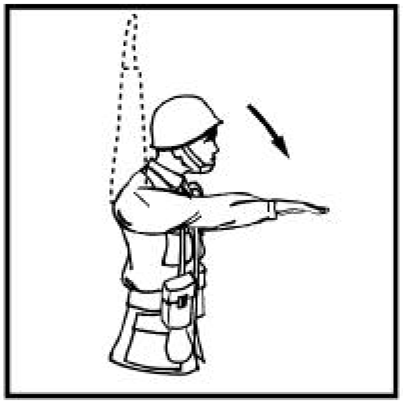

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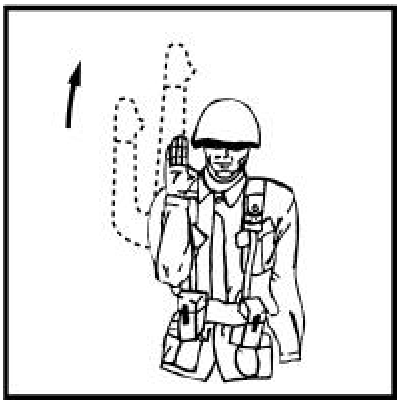


Figure 24

25.Demonstrate "Freeze" as depicted in figure 25.

- Make the signal for HALT and make a fist with the hand.

26.Demonstrate "Dismount, take cover" as depicted in figure 26.

- Extend the arm sideward at an angle of 45 degrees above the horizontal, palm down, and lower it to side. Both arms may be used in giving this signal. Repeat until understood.

27.Demonstrate "Mount, get up" as depicted in figure 27.

- With the hand extended downward at the side with the palm out, raise arm sideward and upward to an angle of 45 degrees above the horizontal. Repeat until understood.

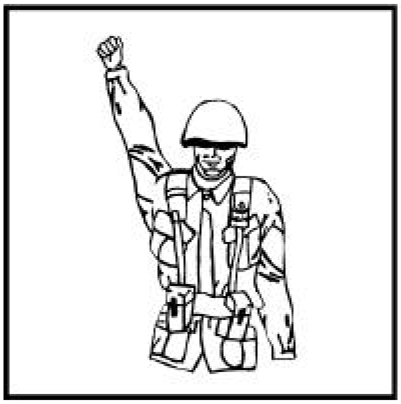
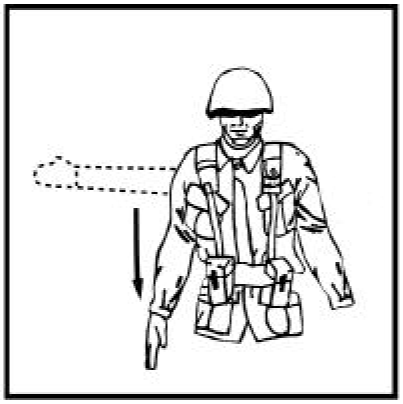


Figure 25



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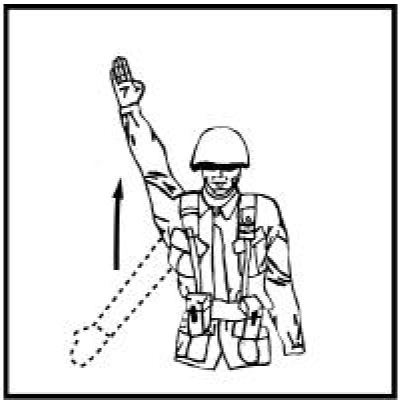


Figure 27

28.Demonstrate "Disregard" as depicted in figure 28.

- Face the unit or individual being signaled, then raise both arms and cross them over the head, palms to the front.

29.Demonstrate "(Right/left) flank" as depicted in figure 29.

- Extend both arms in direction of desired movement.

30.Demonstrate "Increase Speed/Double time" as depicted in figure 30.

- Carry the hand to the shoulder, fist closed; rapidly thrust the fist upward vertically to the full extent of the arm and back to the shoulder several times. This signal is also used to increase gait or speed.

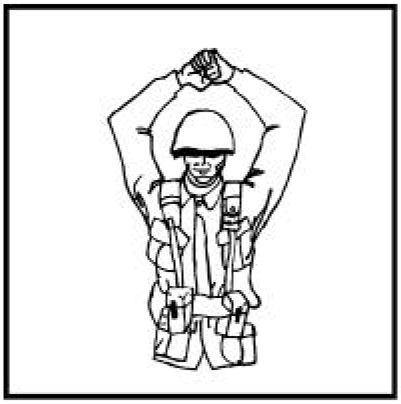


Figure 28

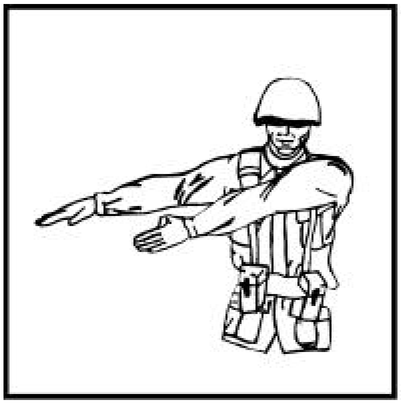


Figure 29

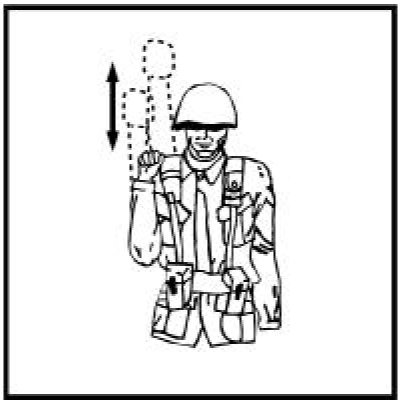


Figure 30

31.Demonstrate "Hasty ambush (left/right)" as depicted in figure 31.

- Raise fist to shoulder level and thrust it several times in the desired direction.

32.Demonstrate "Rally point" as depicted in figure 32.

- Touch the belt buckle with one hand and then point to the ground.

33.Demonstrate "Objective rally point" as depicted in figure 33.

- Touch the belt buckle with one hand, point to the ground, and make a circular motion with the hand.

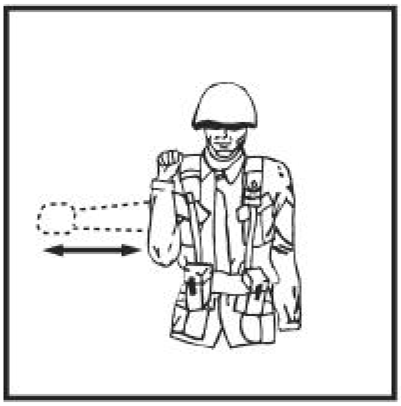


Figure 31

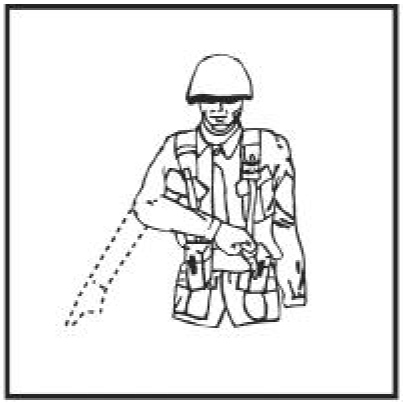


Figure 32

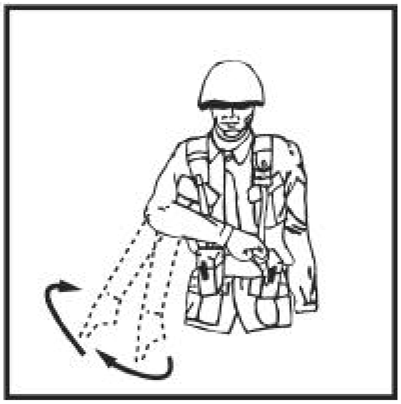


Figure 33

34. Demonstrate "Fire faster" as depicted in figure 34.

- Execute rapidly the signal, COMMENCE FIRING. For machineguns, a change to the next higher rate of fire is prescribed.

35. Demonstrate "Fire slower" as depicted in figure 35.

- Execute slowly the signal, COMMENCE FIRING. For machineguns, a change to the next lower rate of fire is required.

36. Demonstrate "Danger areas" as depicted in figure 36.

- Draw the right hand, palm down, across the neck in a throat-cutting motion from left to right.

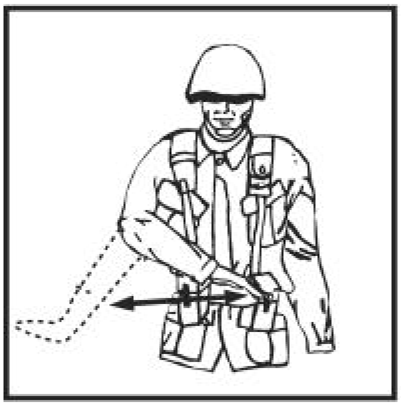


Figure 34

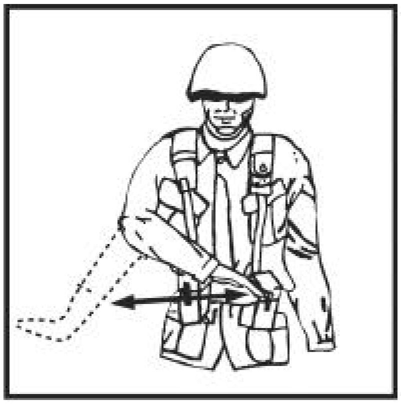


Figure 35

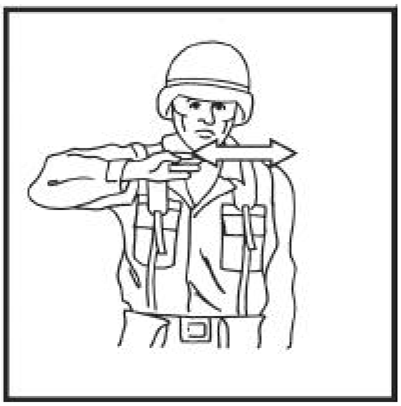


Figure 36

37. Demonstrate "Head count" as depicted in figure 37.

- Tap the back of the helmet repeatedly with an open hand.

38. Demonstrate "Pace count" as depicted in figure 38.

- Tap the heel of the boot repeatedly with an open hand.

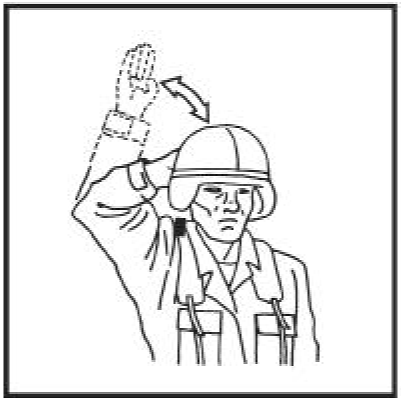


Figure 37

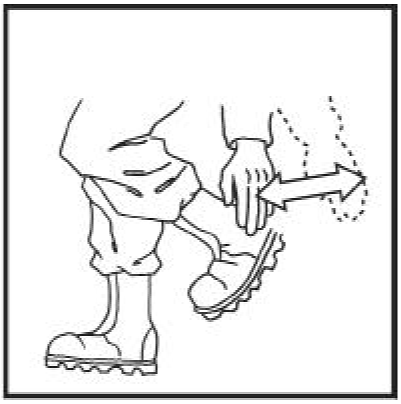


Figure 38

REFERENCE(S):

FM 21-60, *Visual Signals*
FMFM 6-5, *Marine Rifle Squad*

TASK: **MCCS.14.02 (CORE) EXECUTE INDIVIDUAL ACTIONS IN SQUAD FORMATIONS**

CONDITION: **GIVEN 782-GEAR, ASSIGNED WEAPON, AND ASSIGNMENT AS A MEMBER OF A SQUAD.**

STANDARD: **TO ASSUME ASSIGNED POSITION IN EACH FORMATION.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given 782-gear, assigned weapon, and assignment as a member of a squad.

Standard: To assume assigned position in each formation.

PERFORMANCE STEPS:

1. *Demonstrate squad column.*

- When using the squad column, the fire teams are arranged in succession one behind the other as shown in figure 1. The squad column is also:

  (1) Easy to control and maneuver.

  (2) Excellent for speed of movement or when strict control is desired.

  (3) Especially suitable for narrow covered routes of advance, maneuvering through gaps between areas receiving hostile artillery fire, moving through areas of limited observation, and moving under conditions of reduced visibility.

  (4) Vulnerable to fire from the front.

  (5) Used for night operations.

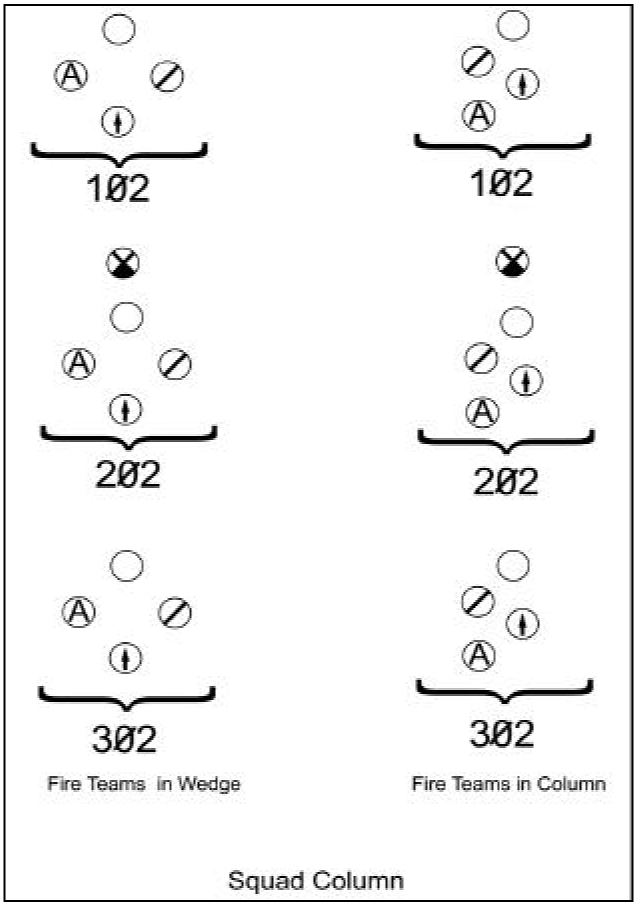


Figure 1

2. *Demonstrate squad wedge.*

- When a squad is in the wedge formation within the fire teams, the position of the fire team leader and assistant automatic rifleman are interchangeable as shown in figure 2. The squad wedge also

  (1) Permits good control

  (2) Provides all-around security

  (3) Has flexible formations

  (4) Has adequate fire in all directions

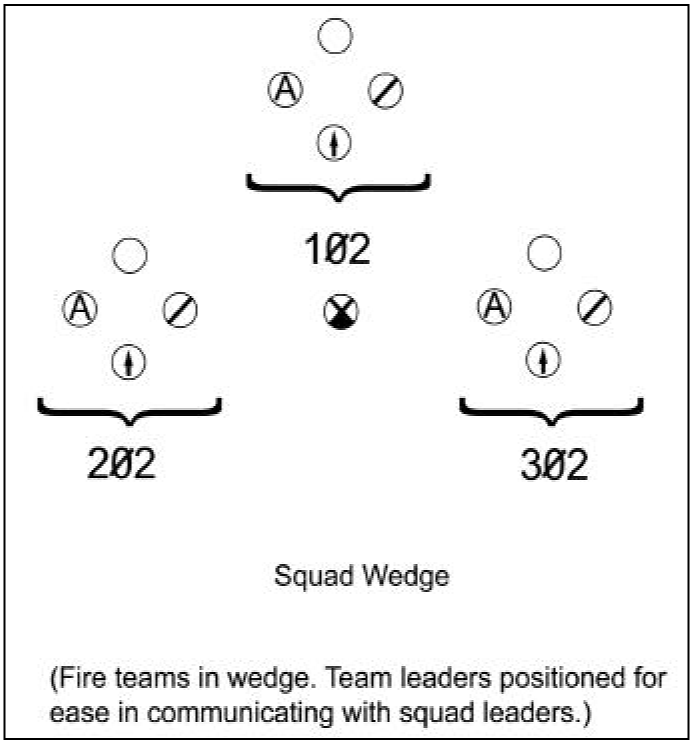

102
202
302
Squad Wedge
(Fire teams in wedge. Team leaders positioned for ease in communicating with squad leaders.)

Figure 2

3. *Demonstrate squad Vee.*

- When the squad utilizes the Vee formation within the fire teams, team leaders position for ease in communicating with the squad leader as shown in figure 3. The squad Vee enables the squad to

  (1) Facilitate movement into squad line

  (2) Provide excellent firepower to front and flanks

  (3) Provide all-around security

  (4) Position itself when the enemy is to the front and his strength and location are known; may be used when crossing large open areas

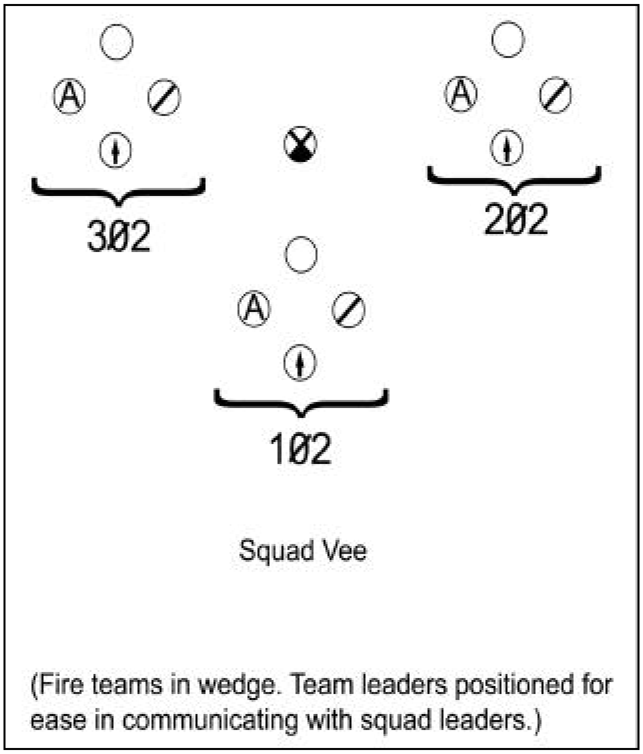

302
202
102
Squad Vee
(Fire teams in wedge. Team leaders positioned for ease in communicating with squad leaders.)

Figure 3

4. *Demonstrate squad line.*

- There are two formations for the squad to utilize to form a squad line. In the first formation, the fire teams form a wedge, as shown in figure 4. In the second formation, the first and third fire teams are in skirmishers right and the second fire team is in skirmishers left as shown in figure 4. The squad line formation is used when

(1) The squad needs to maximize firepower to the front

(2) The location and strength of the enemy are known, during the assault, mopping up, and crossing short open areas

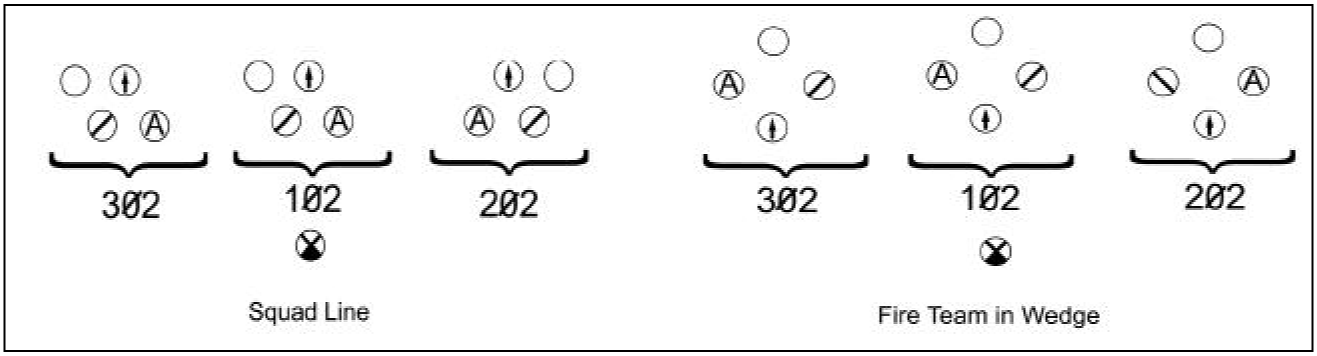


Figure 4

5. *Demonstrate squad echelon.*

- The squad can form either the echelon right or the echelon left, as shown in figure 5. A squad echelon

  (1) Provides heavy firepower to front and echelon flank

  (2) Uses to protect an open or exposed flank

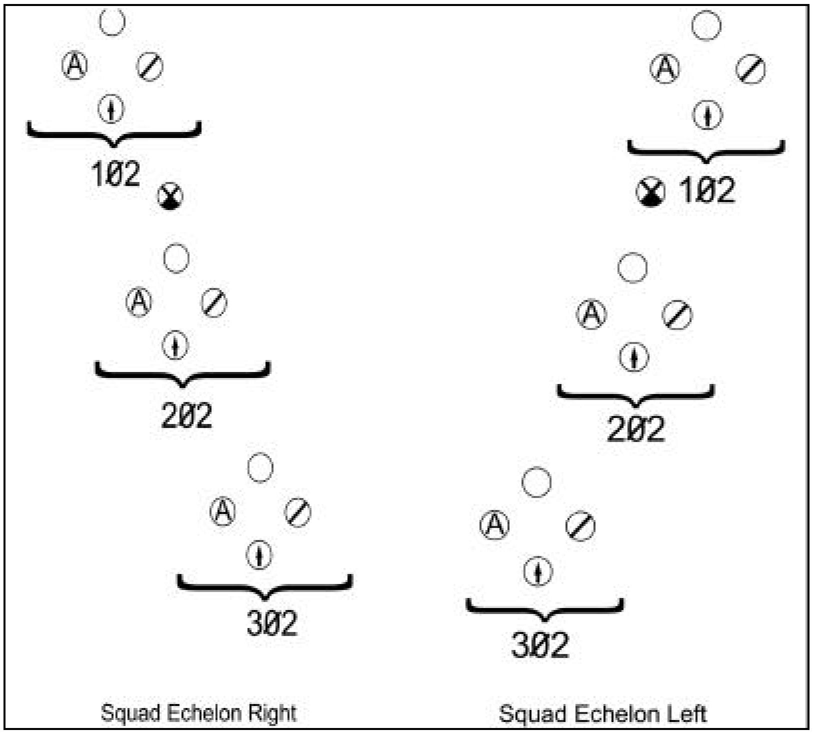


Figure 5

REFERENCE(S):

FMFM 6-5, *Marine Rifle Squad*

TASK: **MCCS.14.03 (CORE) PERFORM INDIVIDUAL ACTIONS DURING SQUAD FIRE AND MOVEMENT**

CONDITION: **GIVEN A TACTICAL SCENARIO, 782-GEAR, ASSIGNED WEAPON, AMMUNITION, AND AN ASSIGNED BILLET IN A SQUAD.**

STANDARD: **TO ACHIEVE EACH OF THE PERFORMANCE STEPS.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a tactical scenario, 782-gear, assigned weapon, ammunition, and an assigned billet in a squad.

Standard: To achieve each of the performance steps.

PERFORMANCE STEPS:

1. *Communicate using hand and arm signals.*

- Demonstrate and know how to perform all performance steps listed in Task *MCCS.14.01, Communicate Using Hand and Arm Signals.*

2. *Execute formation transitions.*

a. The squad leader may change formation to reduce casualties from hostile fire, present a less vulnerable target, or get over difficult or exposed terrain. Formation changes in varying or rough terrain are frequent to get the squad over manmade obstacles and natural obstacles such as rivers, swamps, jungles, woods, and sharp ridges.

b. Directions of movement for members of the fire team when the leader signals for changes of formation are demonstrated in figures 1 through 21. The figures are provided only as a guide to assist fire teams in developing the most rapid means of moving from one formation to another. When the team is to execute a movement, the fire team leader signals with his arms and hands, indicating the movement and direction.

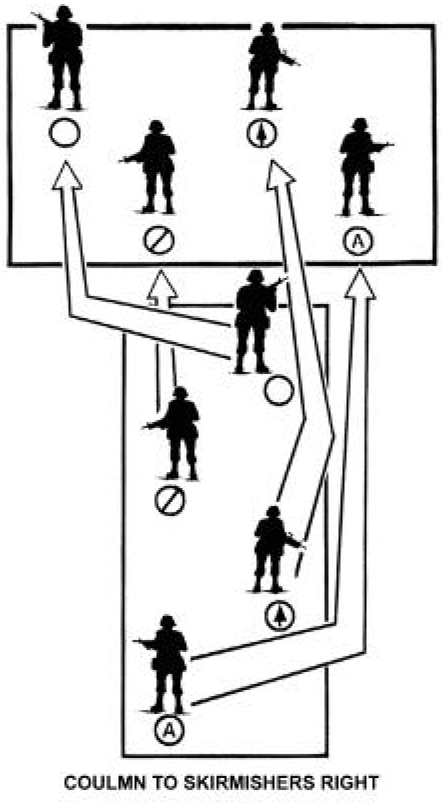


Figure 1

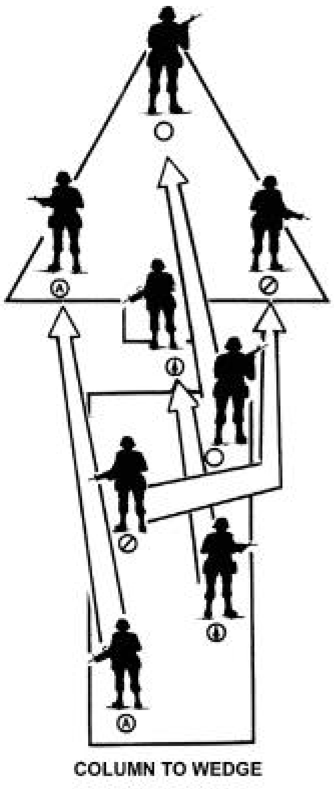
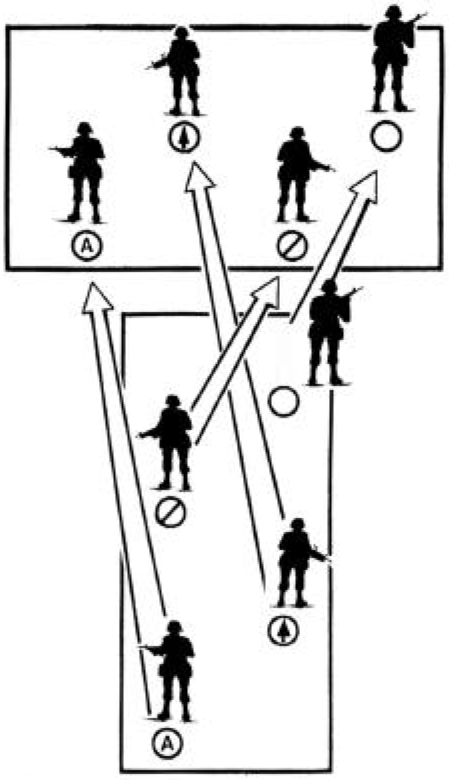
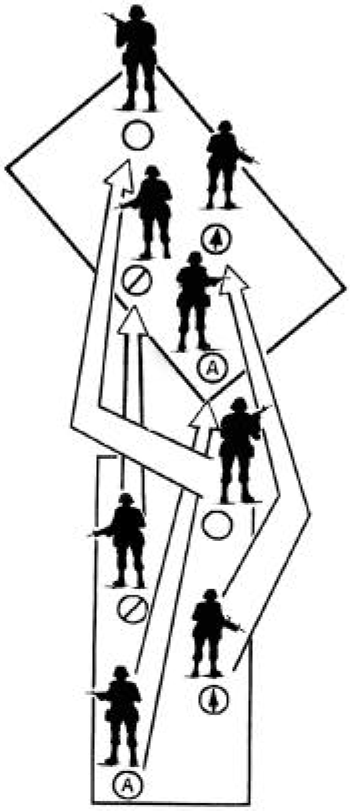


Figure 2



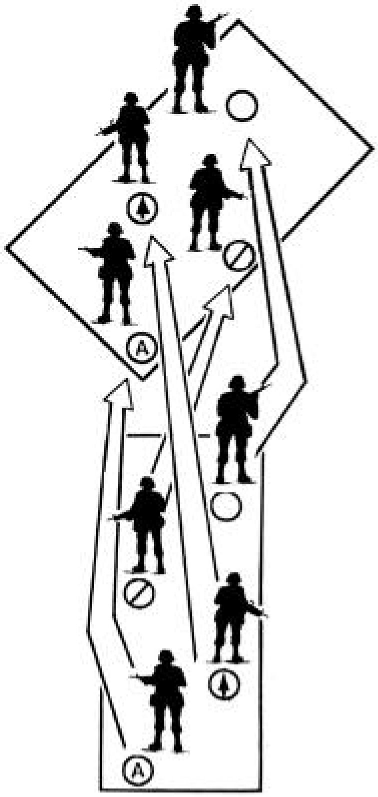
COLUMN TO SKIRMISHERS LEFT

Figure 3



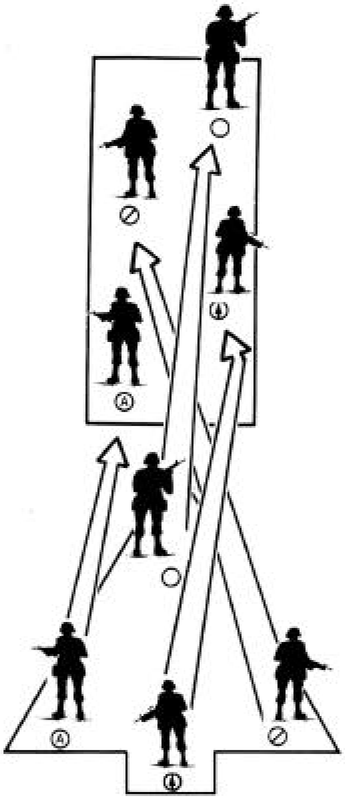
COLUMN TO ECHELON RIGHT

Figure 4



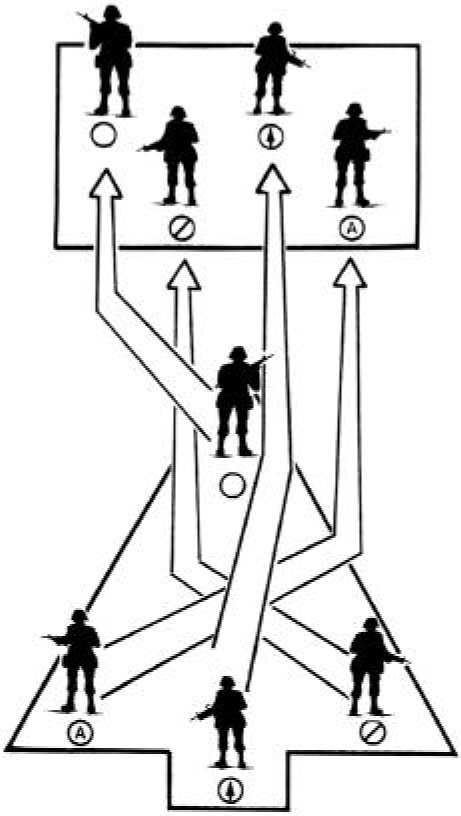
COLUMN TO ECHELON LEFT

Figure 5



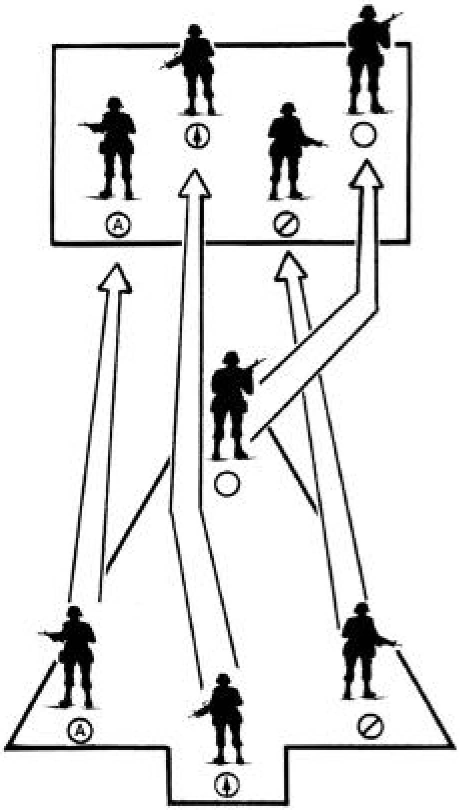
WEDGE TO COLUMN

Figure 6



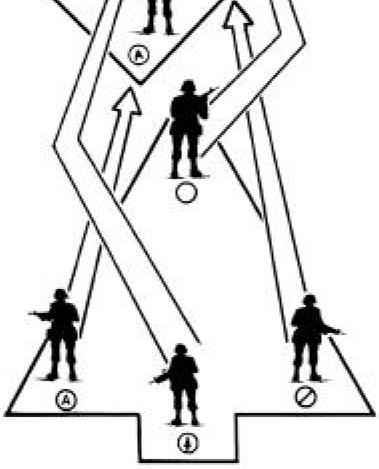
WEDGE TO SKIRMISHERS RIGHT

Figure 7



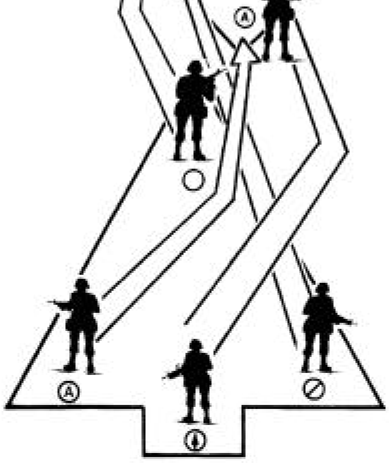
WEDGE TO SKIRMISHERS LEFT

Figure 8



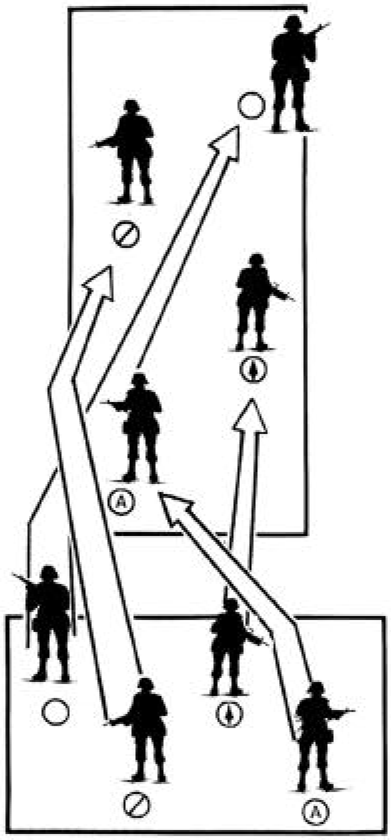
WEDGE TO ECHELON LEFT

Figure 9



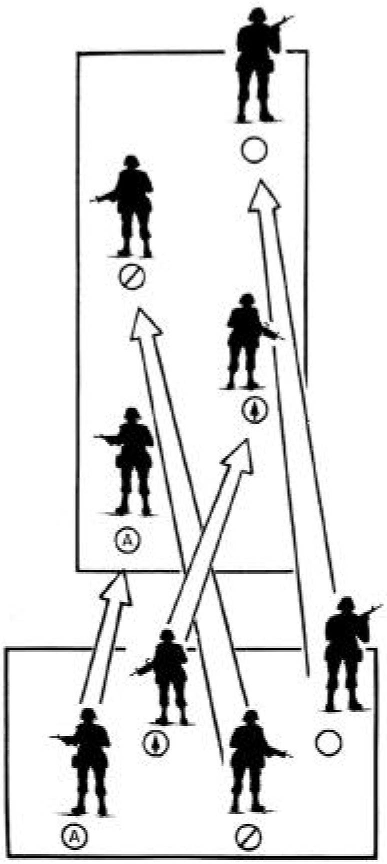
WEDGE TO ECHELON RIGHT

Figure 10



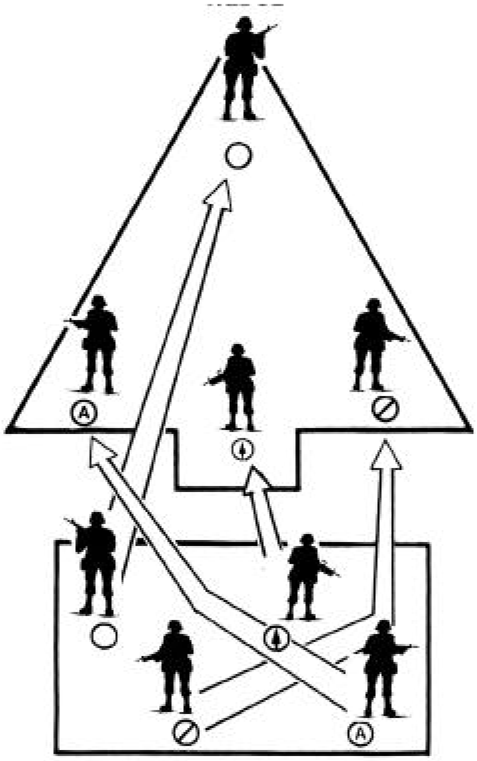
SKIRMISHERS RIGHT TO COLUMN

Figure 11



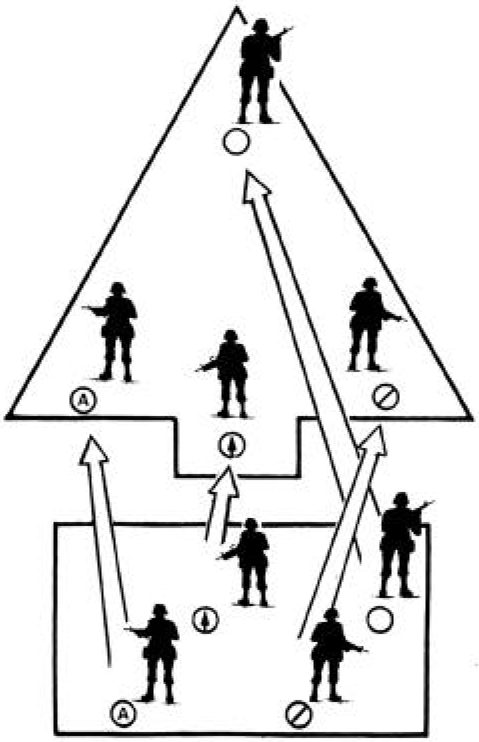
SKIRMISHERS LEFT TO COLUMN

Figure 12



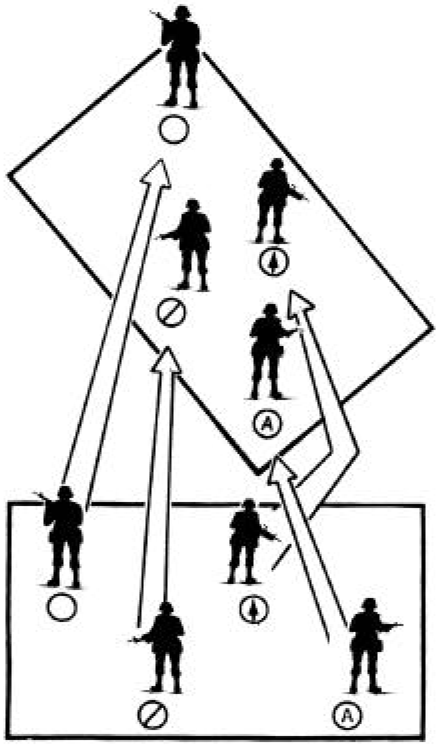
SKIRMISHERS RIGHT TO WEDGE

Figure 13



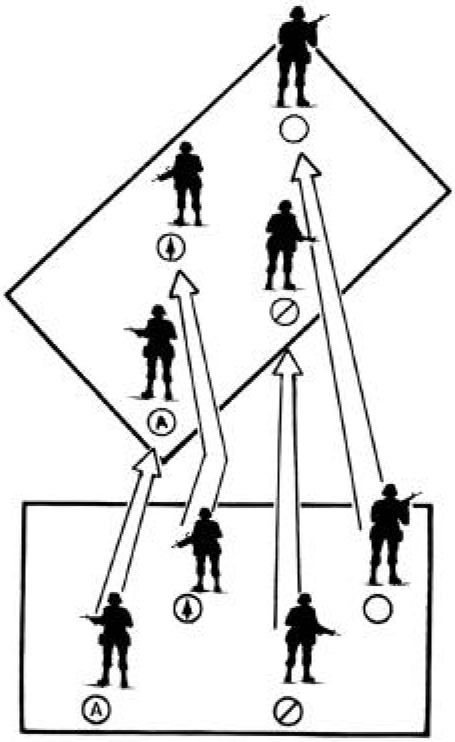
SKIRMISHERS LEFT TO WEDGE

Figure 14



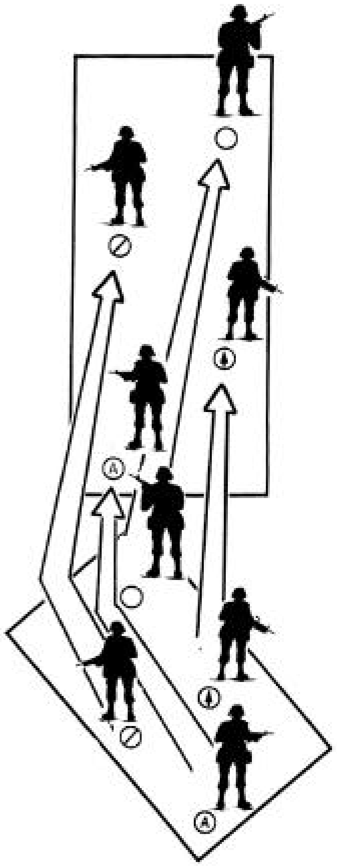
SKIRMISHERS RIGHT TO ECHELON RIGHT

Figure 15



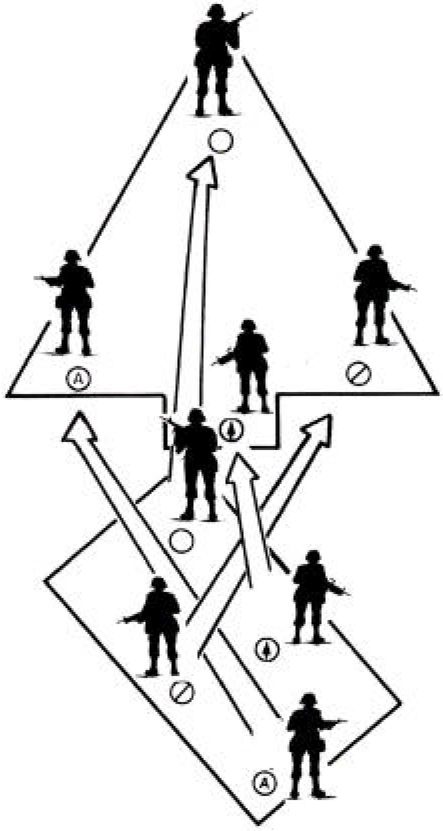
SKIRMISHERS LEFT TO ECHELON LEFT

Figure 16



ECHELON RIGHT TO COLUMN

Figure 17



ECHELON RIGHT TO WEDGE

Figure 18

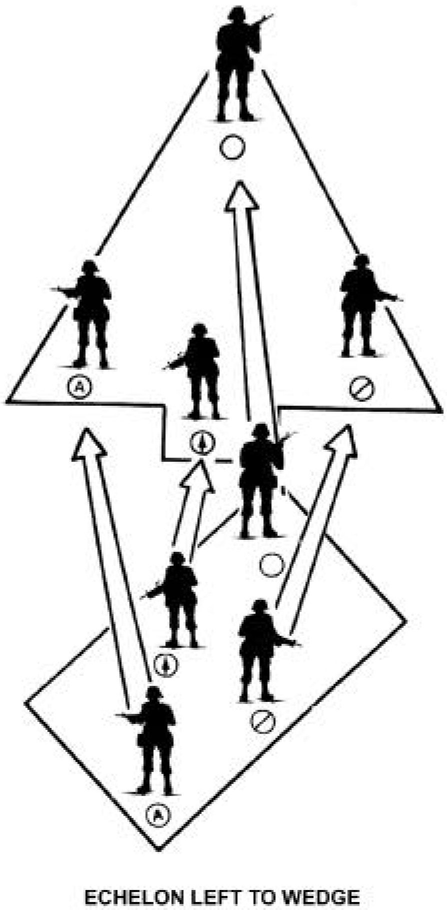


Figure 19

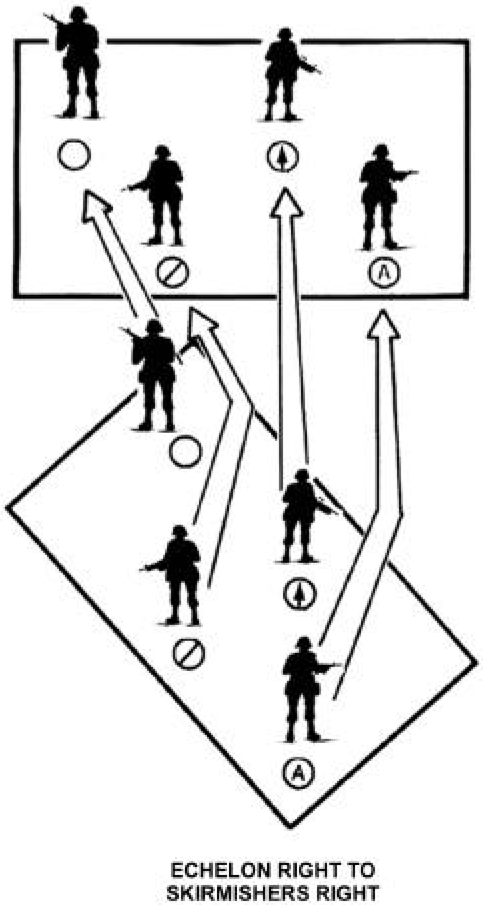


Figure 20

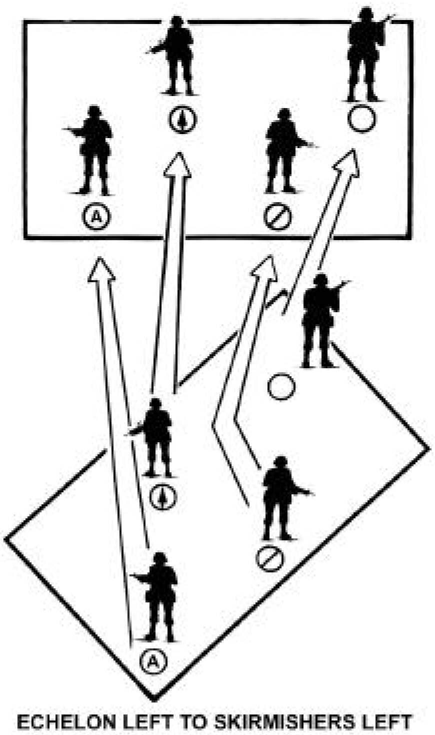


Figure 21

3. *Perform individual movement techniques.*

a. Principles

- The principles of individual movement are as follows:

  (a) Scouts move from one concealed position to another.

  (b) When not changing positions, they remain motionless.

  (c) The scout's head is lifted slowly but steadily, without abrupt movements, to search for a new position.

  (d) Scouts select the next stopping place before moving. They make sure that the enemy is not already there.

  (e) Scouts change position on the run by springing up, running with the body bent low, zigzagging, quickly dropping to the ground slightly to the right or left of the objective, then rolling or crawling to the desired position.

  (f) (Remember the phrase, "I'm up--he sees me--I'm down.")

b. Rushing

(a) When starting from the prone position:

  (a) Raise your head slowly and steadily and select a new position.

  (b) Lower your head slowly, draw arms inward, cock right leg forward, and prepare to rush.

  (c) Use one movement to raise your body by straightening both arms.

  (d) Spring to your feet, stepping off with the left foot.

  (e) Bend forward as low as possible when running.

  (f) Never advance directly to the next position. Always zigzag!

(b) When hitting the deck

  (a) Stop.

  (b) Plant both feet in place.

  (c) Drop quickly to the knees and slide the hand to the heel of the rifle.

  (d) Fall forward, breaking your fall with the butt of the rifle. (To confuse the enemy, roll over after hitting the deck and roll into firing position with feet, knees, and stomach flat on the ground.)

  (e) Keep your head down if you do not intend to fire.

(c) When rolling over

  (a) Hit the deck and assume the prone position.

  (b) Bring the rifle in close to the body, placing the rifle butt in the crotch.

  (c) Roll over swiftly to confuse any enemy observers as to final intended location. Never reappear at the same place you went down.

c. Low crawl

(1) The low crawl is used when

  (a) Cover and concealment are scarce.

  (b) The enemy has good observation over the area in which the scout is moving.

    (c) Speed is not essential.

  (2) To perform the low crawl

    (a) Keep the body as flat as possible against the ground.

    (b) Grasp the rifle sling at the upper sling swivel.

    (c) Let the balance of the rifle rest on the forearm and let the butt of the rifle drag on the ground.

    (d) Keep the muzzle off the ground.

    (e) To start forward, push arms forward and pull right leg forward.

    (f) To move forward, pull with arms and push with right leg.

    (g) Change the pushing leg frequently to avoid fatigue.

d. High Crawl

  (1) The high crawl is used when

    (a) Cover and/or concealment are available.

    (b) Poor visibility reduces enemy observation.

    (c) Greater speed of movement is required.

  (2) Perform the high crawl

    (a) Keep body off the ground.

    (b) Rest weight on forearms and lower legs.

    (c) Cradle rifle in arms, keeping the muzzle off the ground.

    (d) Keep knees well behind the buttocks to stay low.

    (e) Move forward, alternately advancing right forearm and left knee; then left forearm and right knee.

e. Movement aids

- Movement aids include:

    (a) Carrying only necessities. Additional weight causes premature fatigue and impedes free movement.

    (b) Not disturbing birds or animals whose flight would betray your presence. If birds or animals are alerted, remain motionless under cover for a few minutes because the enemy's attention may also have been attracted.

    (c) Moving during an incident that diverts attention, such as an airplane flight, a distant disturbance, or sudden bursts of fire.

    (d) Using fog, smoke, or even light haze to offer concealment for movement. Keep in mind that the enemy may have thermoimagery and night vision devices. Therefore, darkness and smoke may not always be completely effective.

    (e) Following a stream or road by staying as far away from them as possible while still keeping them in sight. Keep close to the dune line when moving along a beach.

    (f) When moving through tall grass or similar growth, move when the wind blows, changing direction frequently. A straight route will be more readily noticed.

    (g) Avoiding, whenever possible, areas of soft ground so as not to leave tracks.

    (h) When crossing a road or water obstacle, choosing crossing sites where the enemy's observation is restricted (an area in shadows or near a bend) and cross rapidly.

4. *Rush according to the fighter-leader and base unit concept.*

a. When the squad leader believes he has reached a point where his squad can no longer advance without sustaining casualties, he orders one or two fire teams to fire on the enemy positions while the remainder of the squad moves forward under the protection of this covering fire. The squad leader based on his rapid estimate of the situation decides the maneuver used in a particular situation. When the enemy position is isolated and has exposed flanks, the squad leader attempts to maneuver, over a covered and concealed route so as to strike the enemy position in the flank or rear. When this is not possible, a frontal attack requiring fire and maneuver is executed.

b. When making either a single or a frontal attack, a rifle squad has three methods by which it may move. The squad may move as a unit in a series of squad rushes, as fire teams in a series of alternating fire team rushes, or the members of the squad may move forward singly by individual rushes. The volume of the enemy's fire will determine which method the squad will use. In all three, the element of speed is necessary.

5. *Use cover and concealment.*

a. Definitions of cover and concealment. Cover is protection from the fire of hostile weapons. Concealment is protection from observation or surveillance from hostile air and ground observation, but not from hostile fire. Both cover and concealment are divided into two main categories: natural and artificial. Natural cover includes small hills, ditches, rocks or vegetation. Fighting holes, bunkers, and brick walls are examples of artificial cover. Some features, such as buildings, provide both cover and concealment. In deciding whether to seek cover or concealment, a scout must make the best choice to complete the mission (figure22).

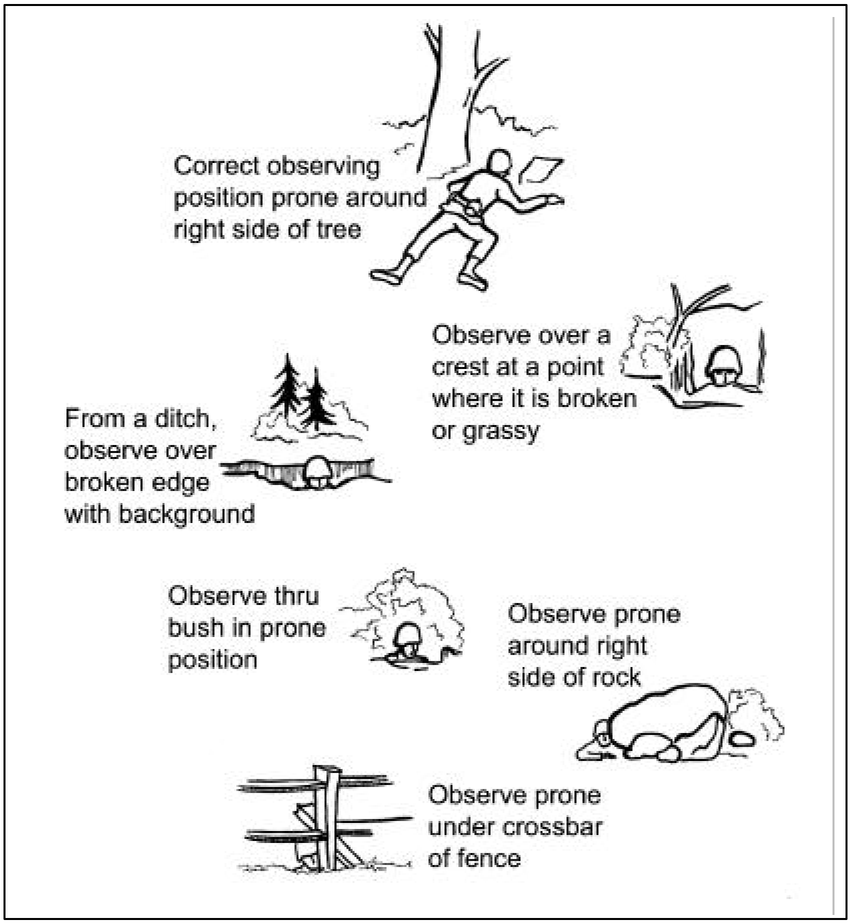

Correct observing position prone around right side of tree
Observe over a crest at a point where it is broken or grassy
From a ditch, observe over broken edge with background
Observe thru bush in prone position
Observe prone around right side of rock
Observe prone under crossbar of fence

Figure 22

b. Concealment principles. Concealment principles are as follows:

(1) Remain motionless while observing. Anything in motion attracts the eye.

(2) Use all available concealment.

(3) Observe from the prone position (it offers a low silhouette and makes detection by the enemy difficult).

(4) Expose nothing that reflects light.

(5) Blend with the background because contrasting colors are noticeable.

(6) Remain in the shade because moving shadows attract attention.

(7) Distort or change the regular outline of objects. Most military objects have distinctive shapes that make obvious shadows and silhouettes.

(8) Avoid the skyline. Figures on the skyline can be seen from great distances and are easily identified by their outlines.

c. Concealment techniques. Concealment techniques are as follows:

(1) When observing, the scout looks around an object's side (unless it is transparent) and prepares to fire, if necessary, around the side of or, if possible, through an object.

(2) Looking or firing over an object can make the scout an easily visible target for the enemy. If the scout must fire over the top of concealment or cover, the outline of the head or helmet should be broken or distorted.

(3) Upon the approach of an airplane, the scout takes a prone position, turns facedown, and remains motionless. If surprised by an airplane, the scout remains in place and does not look up. The scout covers exposed body parts such as the face, back of the neck, and hands with grease paint, mud or other materials to reduce sun reflection.

(4) Camouflage for equipment can be improvised from garnishing or sandbags to prevent sun reflection.

(5) In snowy terrain, white overgarments are worn.

(6) The helmet cover outline should be distorted.

6. Use prescribed rates of fire.

a. The Marine is trained to fire approximately 10 to 12 aimed shots per minute (average rate). Difficulties encountered in battle usually make a slower rate advisable. The fastest rate at which any rifleman or automatic rifleman should fire is determined by his ability to select targets, align the sights, and squeeze off accurate shots.

b. The automatic rifle is particularly valuable against targets such as machineguns and automatic weapons. The rapid rate of fire for the automatic rifle is 100 rounds per minute. The sustained rate of fire is 85 rounds per minute. Determination of the rate of fire for the automatic rifle is governed by the nature of the target. When beginning a firefight, the first few rounds of automatic rifle fire should be delivered at the rapid rate in order to gain fire superiority and to fix the enemy. Thereafter, the rate should be slowed to the sustained rate, which is normally sufficient to maintain fire superiority.

c. The rates of fire of squad weapons combine to form the firepower of the squad. Weapons employment and squad firepower are not determined by how fast Marines can fire their weapons but how fast they can fire accurately. The squad or fire team leader must be able to control the rate and effect of his men's fire, otherwise; ammunition is wasted.

d. The rates of fire for weapons is expressed in rounds per minute (RPM). The following rates of fire apply to the weapons of the rifle squad.

(1) Average rate. This term refers to the average rate of aimed fire a Marine can deliver with a semiautomatic rifle or with an M203 grenade launcher. The following average rates apply to squad weapons:

(a) M-16: 10 to 20 RPM

(b) M-203: 5 to 7 RPM

(2) Sustained rate. This term applies to automatic rifles and machineguns. It is the actual rate of well-directed fire a weapon can deliver for an indefinite length of time without causing a stoppage or malfunction due to overheating. The sustained rate for the SAW is 85 RPM.

(3) Rapid rate. This term applies to automatic rifles and machineguns. It is the maximum amount of controlled fire which can be delivered on target for a short period of time (usually not more than two minutes) without causing a stoppage or malfunction due to overheating. The rapid rate for the SAW is 200 RPM.

7. *Deliver well-directed shots at locations within zone of advance.*

a. The potential firepower of the 13-man squad with all members firing is conservatively estimated at 400 well-aimed rifle and automatic rifle shots or 370 well-aimed rifle and automatic rifle shots and 15 rounds from the grenade launchers per minute. The following terms are used when discussing application of fire:

(1) Neutralize. To render enemy personnel incapable of interfering with a particular operation.

(2) Fire Support. Fire delivered by a unit to assist or protect another unit in combat.

(3) Target of Opportunity. A target that appears in combat, within range, and against which fire has not been planned.

b. Classes of Fire. Rifle fire is classified both with respect to the target (direction) and with respect to the ground.

(1) Fire with respect to the target. (Figure 23 and Figure 24).

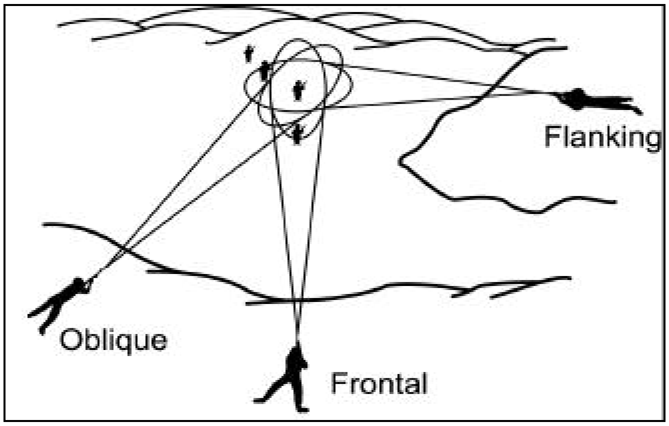


Figure 23. Example 1.

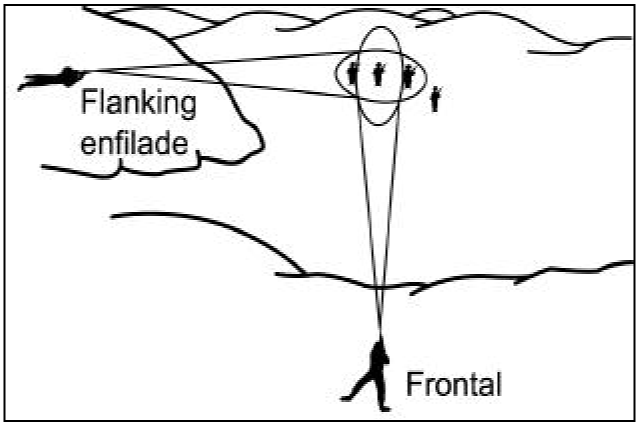


Figure 24. Example 2.

(a) Frontal Fires. Fires delivered perpendicular to the front of a target.

(b) Flanking Fires. Fires delivered against the flank of a target.

(c) Enfilade Fire. Fire delivered so that the long axis of the beaten zone coincides or nearly coincides with the long axis of the target. Enfilade fire may be either flanking or frontal.

(2) Fire with respect to the ground (figure 25).

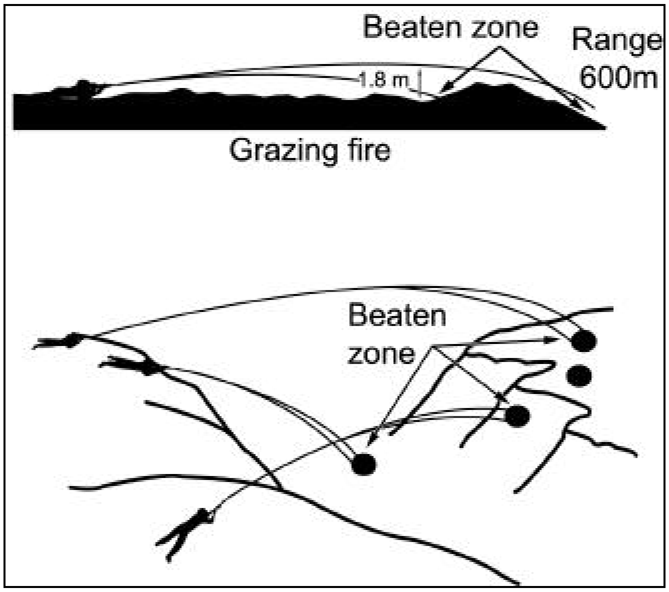


Figure 25

(a) Grazing fires. Grazing fires do not rise above the height of a standing man. Rifle fire from the prone position may provide grazing fire at ranges up to 600 meters over level or uniformly sloping ground.

(b) Plunging fires. Plunging fires strike the ground at a high angle so that the danger space is practically confined to the beaten zone and the length of the beaten zone is shortened. Fire at longer ranges becomes increasingly plunging because the angle of the fall of the bullets becomes greater. Fire from high ground to a target on low ground may be plunging fire. Fire into abruptly rising ground causes plunging fire at the point of impact.

(c) Overhead fires. Overhead fires are delivered over the heads of friendly troops. Rifle fire is considered safe when the ground protects the friendly troops to the front or if they are in position at a sufficient distance below the line of fire.

8. *Perform individual actions during consolidation.*

a. Consolidation is the rapid organization of a hasty defense in order to permit the attacking unit to hold the objective just seized in the event of an enemy counterattack.

b. Hasty defense. The squad leader must place sufficient firepower into position to defend an assigned sector. The fire teams will position themselves in natural depressions, shell craters, or old enemy positions rather than preparing standard fighting holes due to insufficient time. Each fire team leader must take the initiative to ensure that his team’s sector of fire is interlocked with that of adjacent teams. Squad leaders movement is kept to a minimum to reduce exposure to enemy’s artillery, mortar, machinegun, and small arms fire. Marines will move to better firing positions by rushing, seeking cover as they move. Redistribution of ammunition is done during consolidation. During redistribution of ammunition, priority goes to the automatic rifleman. The squad and fire team leaders full attention must be dedicated to preparation of the hasty defense.

9. *Perform individual actions during reorganization.*

- Once the enemy counterattack has been defeated or it has been determined by the senior unit leader on the objective that the danger from immediate enemy counterattack has passed, reorganization of units commences. Reorganization is a continuous process, but it is given special emphasis upon seizure of the objective. The squad leader accomplishes the following during reorganization:

(1) Makes spot assignments to replace fire team leaders and automatic riflemen who have become casualties.

(2) Redistributes ammunition, magazines, and grenades.

(3) Removes casualties to covered positions.

(4) Notifies the platoon commander of the situation, the position of the squad, the casualties incurred, and the status of ammunition supply.

(5) Delivers enemy prisoners to the platoon commander. Prisoners and enemy dead are searched for weapons, papers, documents, and identification. Such material is immediately sent to the platoon commander.

(6) Ascertains the situation of the units to his flanks.

REFERENCE:

FMFM 6-5, *Marine Rifle Squad*
MCWP 3-11.3, *Scouting and Patrolling*

TASK: **MCCS.15.01 (CORE) CONSTRUCT A FIGHTING POSITION**

CONDITION: **GIVEN A POSITION TO DEFEND, 782-GEAR, AND ASSIGNED WEAPON.**

STANDARD: **TO ACHIEVE CONSTRUCTION OF A FIGHTING POSITION IN ACCORDANCE WITH THE SPECIFICATION OUTLINED IN THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided a tactical scenario in any combat environment (day and night), commander's guidance, individual combat equipment (782-gear) with bayonet, entrenching tool, and weapon with ammunition.

Standard: The Marine must construct an individual fighting position. The position must cover the assigned sector of fire and provide sufficient protection from enemy direct and indirect fire.

Administrative Note: Two Marines may be evaluated simultaneously for construction of a two-man fighting position or a machinegun fighting position.

GENERAL INFORMATION:

The process of constructing a fighting position should begin immediately once a unit is halted defensively. The position should be continually improved until departing the site. The process begins with a hasty fighting position and continues to develop into an integrated, hardened position.

Always remember the acronym S.A.F.E. when digging in a fighting position.

S Security: Set up security before digging in.

A Automatic Weapons: Set up your automatic weapons so that they are oriented to the most likely avenues of approach.

F Field of Fire: Clear your fields of fire.

E Entrenchment: Dig in your positions.

PERFORMANCE STEPS:

1. *Mark individual sectors of fire with limiting stake, as directed.*

a. Select the best site for a fighting position, if a location was not specifically assigned by your leader.

(1) Select a position that will blend with the terrain and not contrast with the background. Leaves, straw, or grass placed on the floor of the hole hide the contrast of the fresh earth with the ground around it.

(2) Make sure the location gives frontal protection from direct fire.

(3) Make sure the location allows you or your unit to fire.

(4) Select a site that conceals your position from enemy aircraft as well as ground troops if possible. If the position is under a bush or tree or in a building, it is less likely to be seen from above.

NOTES: Do not dig near an isolated tree, a clump of bushes, or any object that stands out from the surrounding terrain.

Do not use sticks; they may stop grenades from rolling into the grenade sumps.

b. Mark the position for sector of fire stakes. Mark the sectors before digging the hole and emplace the stakes after the digging is completed.

2. Emplace direction, deflection, recoil, and elevation stakes, as directed.

3. Provide fighting position security.

a. Posting security. Local security consists of measures taken to prevent surprise and deny the enemy information concerning the plan of defense.

b. All-round security and protection against surprise are achieved by

  (1) Posting a sentinel for surveillance

  (2) Enforcing noise and light discipline

  (3) Keeping movement within the squad fighting position to a minimum

4. Clear field of fire.

- In clearing fields of fire forward of each fighting position, the following guidelines should be observed.

  (1) Do not disclose the squad's fighting position by excessive or careless clearing.

  (2) Start clearing near the fighting position and work forward to the limits of effective small arms fire.

  (3) In all cases, leave a thin natural screen of foliage to hide fighting positions.

  (4) In sparsely wooded areas, remove the lower branches of scattered large trees. It may be desirable to remove entire trees which might be used as reference points for enemy fire.

  (5) In heavy woods, complete clearing of the field of fire is neither possible nor desirable. Restrict work to thinning undergrowth and removing lower branches of large trees. In addition, clear narrow lanes of fire for automatic weapons.

  (6) If practical, demolish buildings and walls forward of the fighting position which may obstruct fields of fire or provide cover and concealment to the enemy.

  (7) Move cut brush to locations where it will not furnish concealment to the enemy or disclose the squad's fighting position.

  (8) Extreme care must be taken by the fire team leader to make sure that fields of fire are cleared of obstructions that might cause premature detonation of the M203 projectile.

5. Dig hole.

NOTES: Do not disturb the natural concealment around your position while digging.

Avoid creating fresh paths near the position. Use old paths or vary the route to and from the position. Camouflage the path if necessary.

a. Marines at their fighting positions dig fighting holes. Fighting holes provide excellent protection against small arms fire, shell fragments, airplane strafings or bombings, the effects of nuclear detonations, and the crushing action of tanks.

b. If not prescribed by higher authority, the squad leader will designate either one- or two-man fighting holes. The type of fighting hole used is based upon squad strength, fields of fire, size of squad sector of fire, and morale. However, the two-man fighting hole permits one Marine to rest while the other maintains security over the assigned frontage.

  (1) One-man fighting hole.

    (a) The size and shape of the fighting hole are affected by certain important considerations. It is as small as practicable, exposing a minimum target to enemy fire; wide enough to accommodate the shoulders of a man sitting on the fire step; long enough to permit use of an entrenching tool; and at least 4 feet deep to the fire step.

    (b) The Marine should be able to aim and fire his or her weapon when standing on the fire step.

(2) Two-man fighting hole.

(a) The two-man fighting hole consists essentially of two adjacent one-man fighting holes.

(b) Disadvantages: Since it is longer than the one-man type, the two-man fighting hole offers somewhat less protection against a tank crossing along the long axis, as well as less protection against strafing, bombing, and shell fragments.

(b) Advantages: It allows continuous observation, mutual assistance and reassurance, and the redistribution of ammunition between the occupants.

c. Details of construction.

- In most types of soil, the fighting hole gives protection against the crushing action of tanks provided the occupant crouches at least 2 feet below the ground surface. In sandy or soft soils, it is necessary to revet the sides to prevent caving in. The soil is piled around the hole as a parapet, approximately 3-feet thick and ½-foot high, leaving a berm or shelf wide enough for the Marine to use as an elbow rest while firing. If turf or topsoil is used to camouflage the parapet, the Marine first removes sufficient ground cover and sets it aside until the fighting hole is completed. Once complete, the ground cover can then be laid on the top and side of the parapet so that it will better blend in with surrounding ground. A constructed fighting position is shown in figure 1.

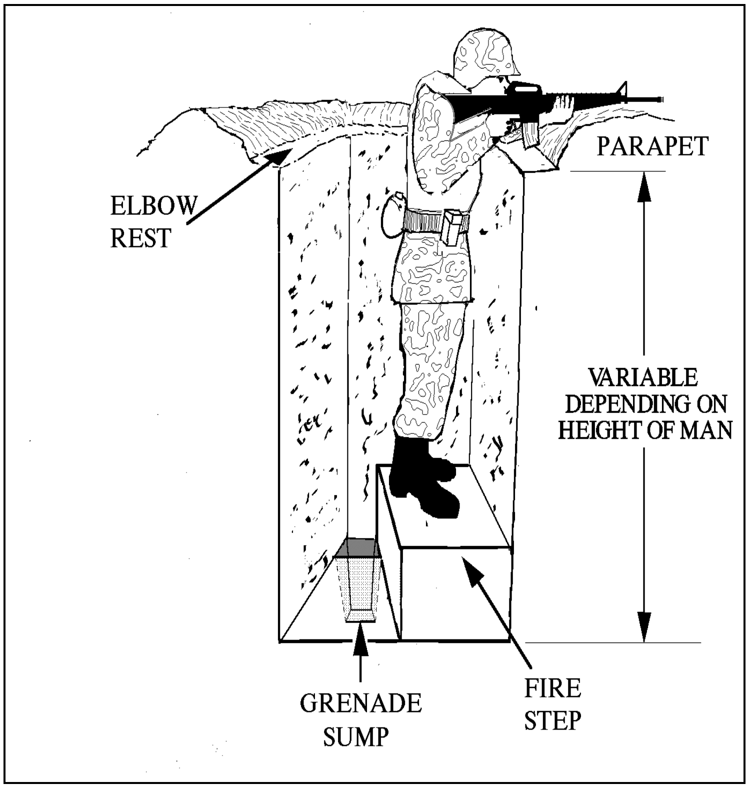


Figure 1

d. Fighting hole with camouflaged overhead cover.

- It is desirable that the soil is removed to an inconspicuous place and a camouflaged overhead cover be improvised. Branches, supporting sod, or other natural material in the vicinity may be used for this purpose. The overhead cover may be reinforced to provide protection from overhead bursts of artillery fire.

6. Prepare parapet.

- Use dirt taken from the hole to form the parapet or use a natural parapet such as a tree, mound, or rock.

7. Prepare elbow rest.

- Leave enough distance between the hole and the parapet to make an elbow rest where you can put your elbows when firing. The position on the elbow rest is shown in figure 2.

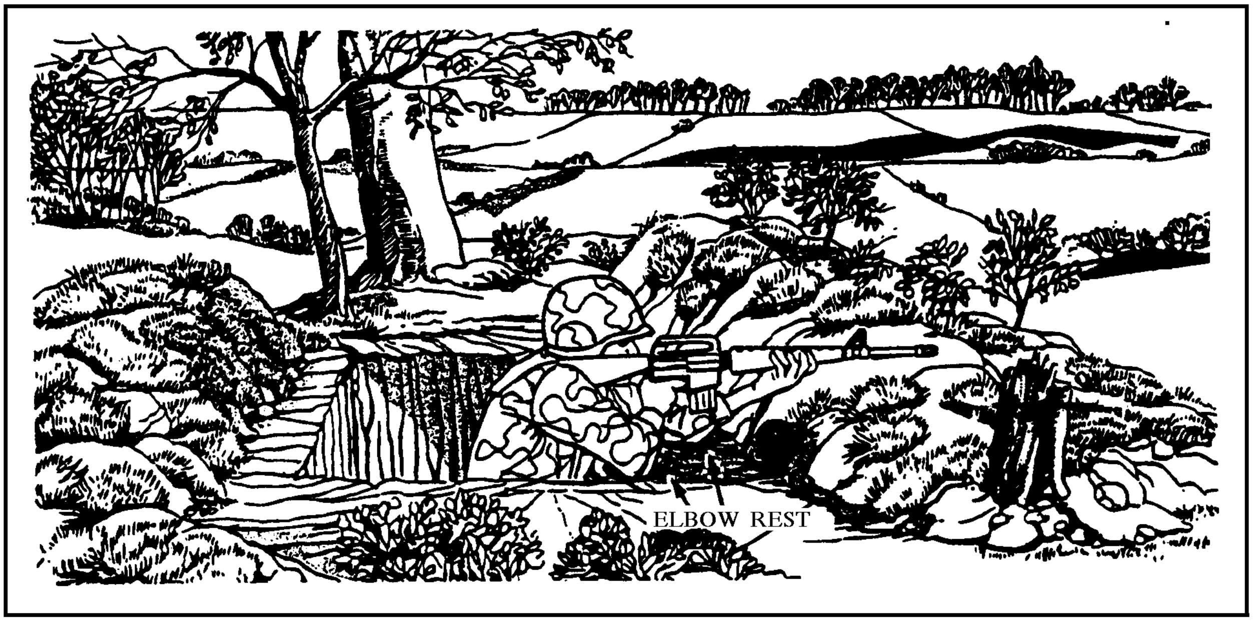


Figure 2

8. Prepare fire step.

- Leave enough earth at the base of the hole to form a fire step.

9. Dig water sump.

- A water sump, below the fire step, is dug at one side of the fighting hole to collect water and provide a space for the Marine's feet while he or she is seated on the fire step.

10. Dig grenade sump.

- Dig a circular grenade sump into the wall of the fighting hole facing the enemy at the lower part of the water sump. The grenade sump should be cone-shaped with the opening measuring approximately as wide as the spade of the entrenching tool, narrowing to about 5 inches in diameter at the end, sloped downward at an angle of 30 degrees, and be as deep as the Marine can make it.

11. Camouflage positions.

a. Concealment from enemy ground and aerial observation is very important in selecting and organizing each fighting position. The squad must take advantage of natural concealment whenever possible. Camouflage measures are begun from the moment the position is occupied and are continued as long as the Marines are there.

b. The following are specific camouflage measures.

(1) Do not disclose the position by excessive or careless clearing of fields of fire.

(2) Use the same turf or topsoil that has been removed from the area of the fighting hole to camouflage the parapet.

(3) Dispose of all soil from the fighting hole not used on the parapet. Carry the soil away in sandbags or shelter halves. Dispose of it under low bushes, on dirt roads or paths, in streams or ponds, or camouflage it.

(4) Avoid digging in next to an isolated bush, tree, or clump of vegetation.

(5) Conceal the fighting hole from observation by the use of camouflaged cover. Construct the cover from natural materials.

(6) Replace natural material used in camouflage before it wilts or changes color.

(7) Avoid creating fresh paths near the position. Use old paths or vary the route followed to and from the position.

(8) Avoid littering the area near the position with paper, tin cans, and other debris.

REFERENCE(S):

FMFM 6-5, *Marine Rifle Squad*

ADMINISTRATIVE INSTRUCTION:

Marines operating with crew-served weapons should construct a fighting position appropriate for the weapon systems.

TASK: **MCCS.15.02 (CORE) PREPARE A FIRE TEAM FIRE PLAN SKETCH**

CONDITION: **GIVEN THE REQUIREMENTS.**

STANDARD: **TO DEMONSTRATE UNDERSTANDING PER THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a position, sector of fire, writing material, and a compass as a member of a fire team.

Standard: To illustrate four out of five required items.

PERFORMANCE STEPS:

1. Depict the primary positions of the fire team and individuals using military symbols.

- Organization of the ground. (See figure 1 below.)

(1) The squad leader organizes the fire team in the defense by specifying a sector of fire and principal direction of fire for the automatic rifle.

(2) Select terrain features to indicate lateral and forward limits of the sector of fire.

(3) Point out on the ground the general location of fire team fighting positions to be occupied.

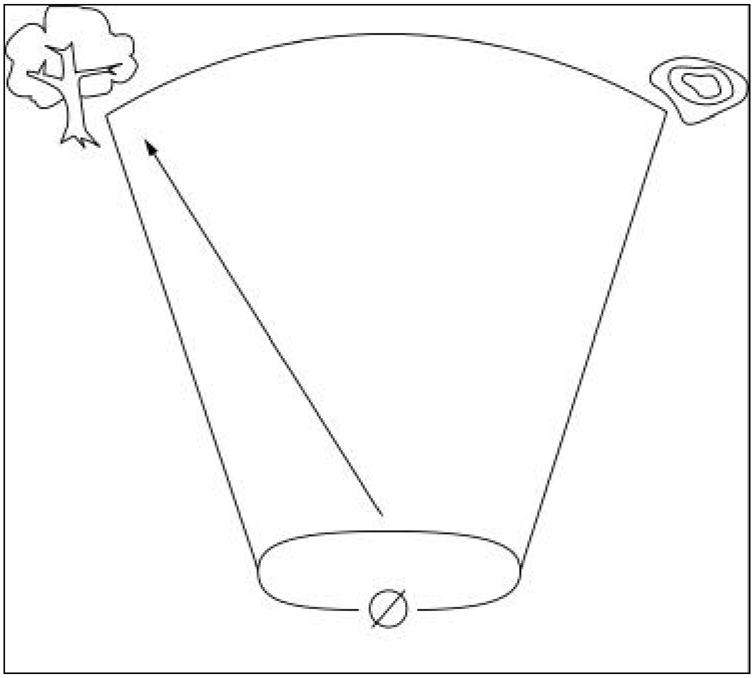


Figure 1

2. Depict individual sectors of fire, including lateral and forward limits.

a. Fire Plan.

(1) The fire team leader formulates the team's fire plan to cover the entire sector assigned by the squad leader with the heaviest possible volume of fire. (See figure 2.) The fire plan includes assignment of individual sectors of fire, individual fighting positions, firing positions and a principal direction of fire for the automatic rifle as assigned by the squad leader, and the position of the fire team leader.

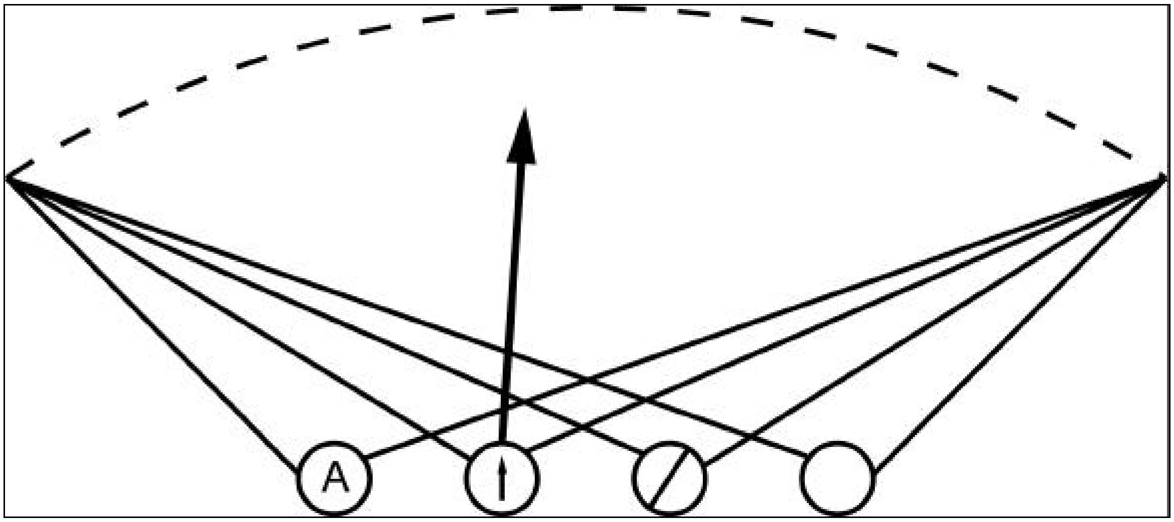


Figure 2

(2) Individual Sectors of Fire.

(a) The fire team is the basic fire unit of the rifle platoon and, when practicable, each individual's sector of fire covers the entire fire team sector of fire.

(b) In the defense, it is impractical for each automatic rifleman to cover the entire squad sector of fire. He is assigned to cover only the fire team sector.

(c) The fire team leader is assigned an individual sector of fire for the employment of the M-203 grenade launcher. He covers the entire fire team sector. The fire team leader normally does not fire his rifle except in emergencies since his primary duty during the conduct of the defense is to control and direct the fire of his team, particularly the automatic rifle.

(3) Individual Fighting Position

(a) The fire team leader designates individual fighting positions that will enable the fire team to cover the assigned sector of fire.

(b) Positions may be prepared as single or double fighting holes. The interval between fighting holes within a fire team may vary from 5 to 20 meters. In close terrain, single fighting holes are usually prepared.

(c) If double fighting holes are prepared, the automatic rifleman and assistant automatic rifleman will pair off.

(4) Automatic Rifleman

(a) Since the automatic rifles are the backbone of the squad's defense, the squad leader selects the exact fighting position for the automatic rifle. The remainder of the fire team is then positioned around it.

(b) The squad leader will indicate the principal direction of fire for the automatic rifle. The platoon commander himself may have selected this principal direction of fire, under some conditions.

(5) Rifleman.

- The rifleman is positioned so he can cover the entire fire team sector, if possible. His position must provide support and protection for the automatic rifleman.

(6) Assistant Automatic Rifleman.

- Normally, the assistant automatic rifleman participates in the defense as a rifleman. He is positioned near or with the automatic rifleman because he must be prepared to assume the duties of the automatic rifleman.

(7) Position of the Fire Team Leader.

- Usually the fire team leader's position is at the center of the fire team. It must be positioned from which he can
  - Observe the entire fire team and its sector of fire.
  - Direct the fire of the automatic rifle.
  - Deliver effective M-203 grenade launcher fire.
  - Observe the squad leader, if possible.

(8) M-203 Employment

(a) In assigning the sectors of fire for employing the M-203 grenade launcher, the fire team leader must consider the overall fire plan. Specifically, he must consider the sectors of fire assigned to the automatic rifleman and the need to furnish support to the automatic rifleman and to adjacent units. The fire team leader then positions himself where he can best control the fire team and deliver the most effective M-203 fire. This is usually in the center of the fire team position.

(b) As the enemy approaches the platoon battle position, he is subjected to an ever-increasing volume of fire from weapons in the battle position and from supporting arms. Unless restrictions are placed on the firing of the M-203, the fire team leader opens fire with the M-203 on profitable targets as they come in range. In some situations, the squad leader or platoon commander may desire to withhold M-203 fires until the enemy has reached a specified area, at which time the fire team leader opens fire. The surprise fire from the grenade launcher, in conjunction with the fires of the other squad and platoon weapons, will have a devastating effect upon the enemy, particularly in the assault phase of the enemy attack. When final protective fires are called for, the fire team leader engages the largest mass of enemy infantry within his assigned sector of the M-203.

(c) The fire team leader's fighting position should enable him to cover the entire fire team sector of fire. Primary and supplementary fighting positions are prepared. Firing positions are selected to provide maximum cover and concealment consistent with the assigned mission. Extreme care must be taken to ensure that fields of fire are cleared of obstructions that might cause premature detonation of the projectile, thereby endangering friendly personnel. The M-203 is employed to cover the most likely avenues of approach for enemy infantry into the defensive position.

b. Basic Fire Team Fire Plan Sketch (figure 3).

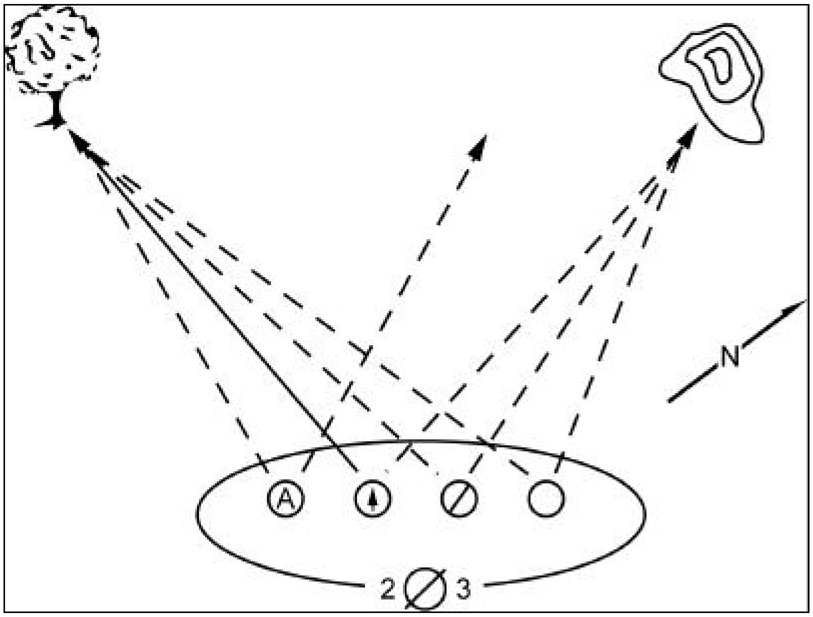


Figure 3

3. *Depict the principal direction of fire for the M249 SAW.*

a. Principal Direction of Fire.

(1) A specific direction within an Automatic Rifleman’s sector of fire.

(a) An Automatic Rifleman can be assigned a principal direction of fire (PDF), which is his primary fire mission.

(b) An Automatic Rifleman can be assigned only one PDF, and the PDF corresponds to a readily identifiable terrain feature. This terrain feature may be the target itself, or it may indicate the line of sight when no target is assigned. A direction stake near the firing position is used to indicate the PDF in periods of reduced visibility.

(2) Different uses of the PDF.

(a) A PDF can be used to cover a gap in a final protective line of a machine gun.

(b) A PDF can be used to cover a specific terrain feature that the enemy could use to his advantage, such as a draw that may serve as an avenue of approach, or a hilltop that may serve as a vantage point.

(c) A PDF can be used to protect a crew-served weapon by firing across its front.

(d) A PDF can be used to augment the band of flanking fires placed immediately in front of the battle position when targets of opportunity to the front are not visible.

b. Fire Plan Sketch of a PDF Assigned to a M249 SAW (figure 4).

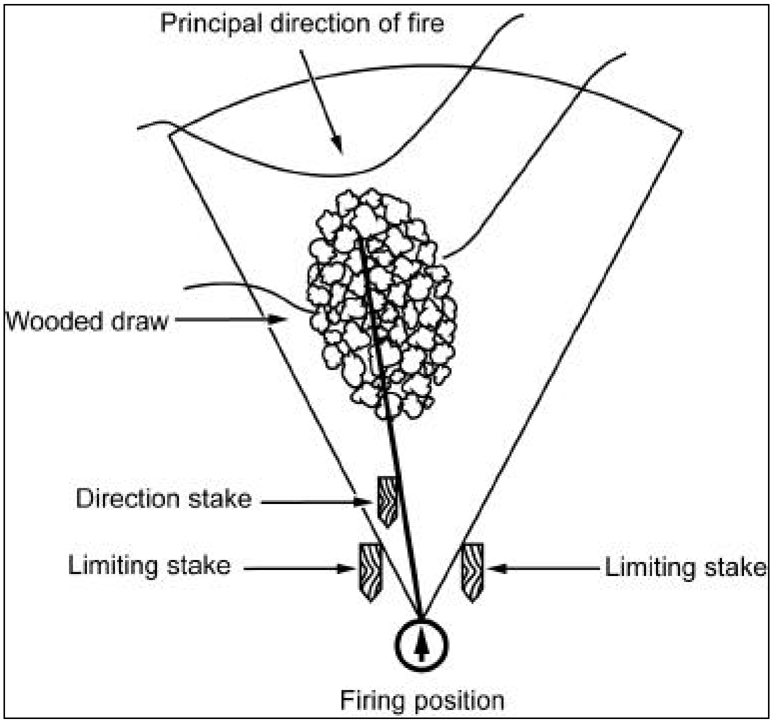


Figure 4

4. *Depict Magnetic North.*

a. The magnetic north line provides a reference to show the direction the fire team is facing.

b. Figure 5 shows magnetic north.

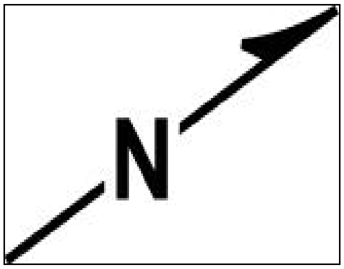


Figure 5

5. *List marginal information.*

a. The following marginal information should be included in the fire team fire plan sketch:

  (1) Prepared by (rank and last name).

  (2) Fire team, squad, and platoon identification.

  (3) Date/time group.

  (4) Magnetic north.

  (5) Scale.

b. The marginal information is normally written down in the top right hand corner of the fire plan sketch.

6. *Depict the position(s) of crew served weapons, as required.*

a. Support For Crew-Served Weapons.

  (1) When crew-served weapons are positioned within a fire team's position, the fire team leader takes on the additional task of providing protection for the crew-served weapon.

  (2) To provide close-in protection, the location of crew-served weapons must be considered when selecting fire team fighting positions.

  (3) Crew-served weapons are always placed in the defense first; the infantry are positioned to protect and augment these crew-served weapons.

b. Crew-Served Weapon (M240G Medium Machinegun) Within a Fire Team Fire Plan Sketch.

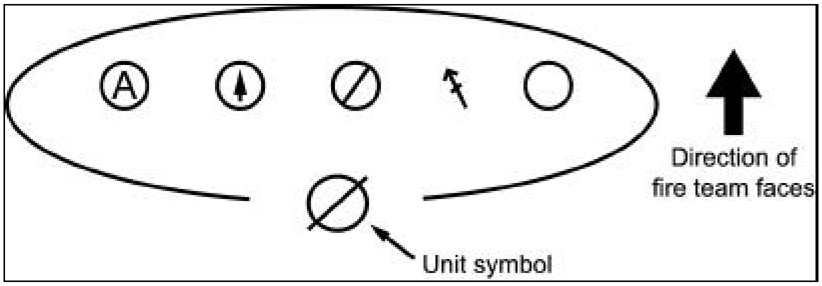


Figure 6

7. *Depict the position(s) of Listening Posts/Observation Posts (LP/Ops), as required.*

a. Purpose of Listening Posts/Observation Posts (LP/Ops).

   (1) LP/Ops are established to provide continuous observation of the most likely enemy avenues of approach into the defensive position.

   (2) LP/Ops are employed by the defending unit and tasked to detect enemy presence before the enemy can determine the size, location, and disposition of the defense.

   (3) During occupation of the defense, LP/Ops are the first element emplaced within the defensive position. When moving the defensive position, they are the last element to withdraw.

b. Considerations of LP/Ops.

   (1) Must be sited to allow observation of designated area.

   (2) Should take advantage of natural cover and concealment to provide protection for Marines manning it.

   (3) Located within small-arms range of the defensive positions.

   (4) Routes to and from should be concealed.

   (5) Avoid positioning on obvious terrain such as hilltops.

c. The figure below is the symbol of a listening post/observation post. This symbol should be appropriately placed within the fire plan sketch in accordance with where the actual LP/OP is located.

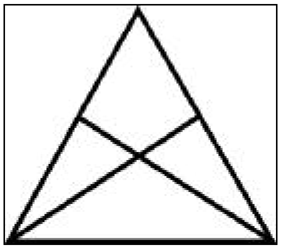


Figure 7

8. *Depict the shape of dead space and indicate how it is covered, as required.*

a. Dead space is an area within the maximum effective range of a weapon, surveillance device, or observer that cannot be covered by direct fire and observation from a given position because of intervening obstacles, the nature of the ground, the characteristics of the trajectory, or the limitations of the systems. Dead space can be covered with other direct fire weapons, M203 fire, indirect fires, or mines (command-detonated claymores).

b. Dead space is depicted on a range card as a break in the solid black line which represents the grazing fire of an automatic rifle firing a FPL, as shown below.

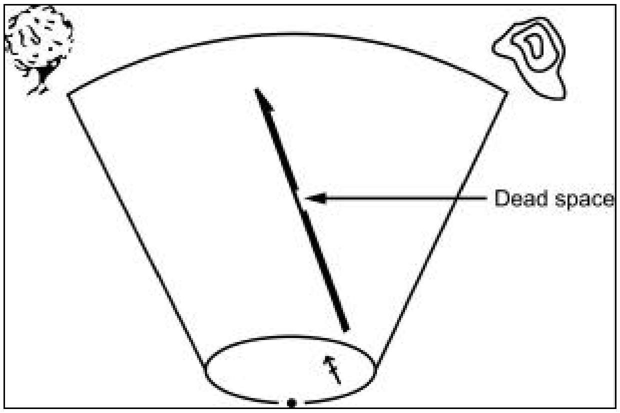


Figure 8

9. *Depict primary, alternate, and supplementary positions, as required.*

a. Differences Between Primary, Alternate, and Supplementary Positions.

(1) Primary fighting positions are the best available positions from which the assigned sector of fire can be covered. Individuals, fire teams, squads, and crew-served weapons are assigned primary positions.

(2) Alternate fighting positions are often located behind the primary fighting positions and are used when the primary position becomes untenable. Alternate fighting positions maintain the same sectors of fire as the primary fighting positions.

(3) Supplementary fighting positions are used to guard against attack from directions other than those from which the main attack is expected. A supplementary position is a secondary position and does not cover the same sector of fire as the primary position.

b. Primary, alternate, and supplementary positions within a squad fire plan sketch (figure 9).

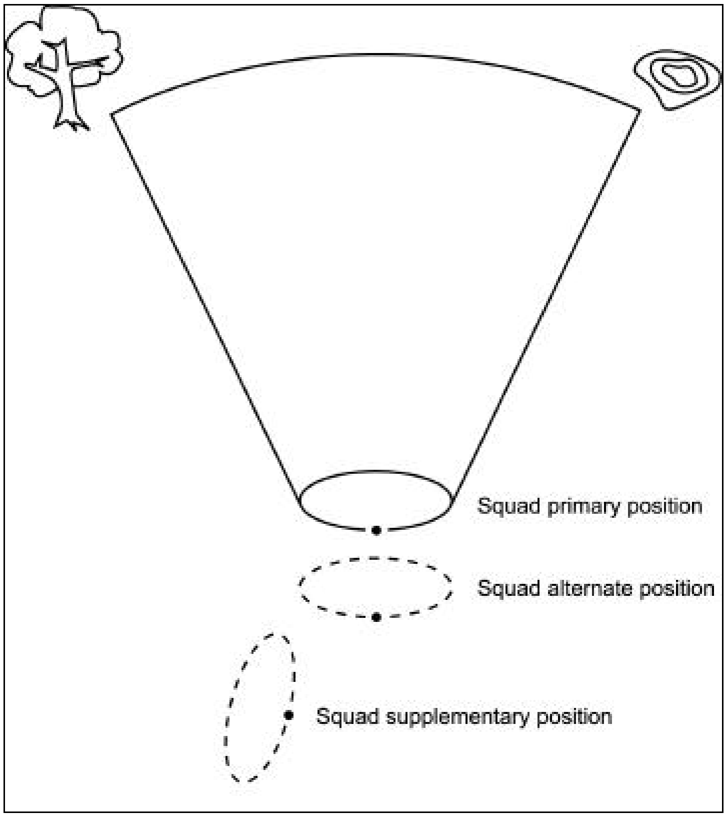


Figure 9

REFERENCE (S):

FMFM 6-5, *Marine Rifle Squad*

TASK: **MCCS.15.03 (CORE) DEFEND A POSITION**

CONDITION: **GIVEN 782-GEAR, PRESCRIBED WEAPON, AMMUNITON, AND ASSIGNED AS A MEMBER OF A SQUAD.**

STANDARD: **TO ENGAGE TARGETS ON THE COMMAND OF THE SQUAD LEADER OR WHEN THE ENEMY REACHES THE FORWARD LIMIT OF THE FIRE TEAM SECTOR OF FIRE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given 782-gear, prescribed weapon, ammunition, and assigned as a member of a squad.

Standard: The Marine must challenge unidentified personnel, take cover in fighting hole, and engage targets on the command of the squad leader or when the enemy reaches the forward limit of the fire team sector of fire.

PERFORMANCE STEPS:

1. *Challenge unidentified personnel entering assigned sector.*

a. Do not allow unidentified personnel to closely approach your position. Halt and identify them before they are close enough to be a danger to you. This precaution is especially important at night and during other periods of poor visibility.

b. The following definitions have been approved for Marine Corps use:

Challenge. Any process carried out by one unit or person to determine the friendly or hostile identity of another.

Reply. An answer to a challenge.

Password. A secret word or distinctive sound given by a sentry.

Countersign. A secret reply given in response to a sentry who has presented a password; for example, **nuts** (password), **wine** (countersign).

c. An example of how to use a challenge and reply, password and countersign is shown below.

ACTION BY SENTRY	ACTION BY GROUP OF PERSON CHALLENGED
HALT! WHO GOES THERE? (Challenge)	Halts and gives any reply which indicates the person or group is authorized to pass such as **FRIEND, ALLY, FIRE TEAM RETURNING FROM PATROL,** etc. (Reply)
ADVANCE AND BE RECOGNIZED.	Person or group leader advances without replying.
HALT! (Sentry halts person when he or she can be recognized)	Person halts until recognized by sentry.
Password is given in a low tone.	Countersign is given in a low tone
Sentry follows same procedure with the rest of the group.	Next member (or remainder) of group advances at order of sentry to be recognized. Group leader remains with sentry to assist in identifying the remainder of the group.

2. *Take cover in fighting hole during enemy preparatory bombardments.*

a. The enemy will normally precede his or her attack with fire from any or all of the following weapons: artillery, naval gunfire, mortars, machineguns, tanks, and aircraft. During this incoming enemy fire, the squad will take cover in its fighting holes while maintaining surveillance to the front, flanks, and rear to determine if the enemy is advancing closely behind their supporting fires.

b. Crouch down as low as possible in your fighting hole to reduce the risk of injury from the enemy preparatory bombardment as shown in figure 1.

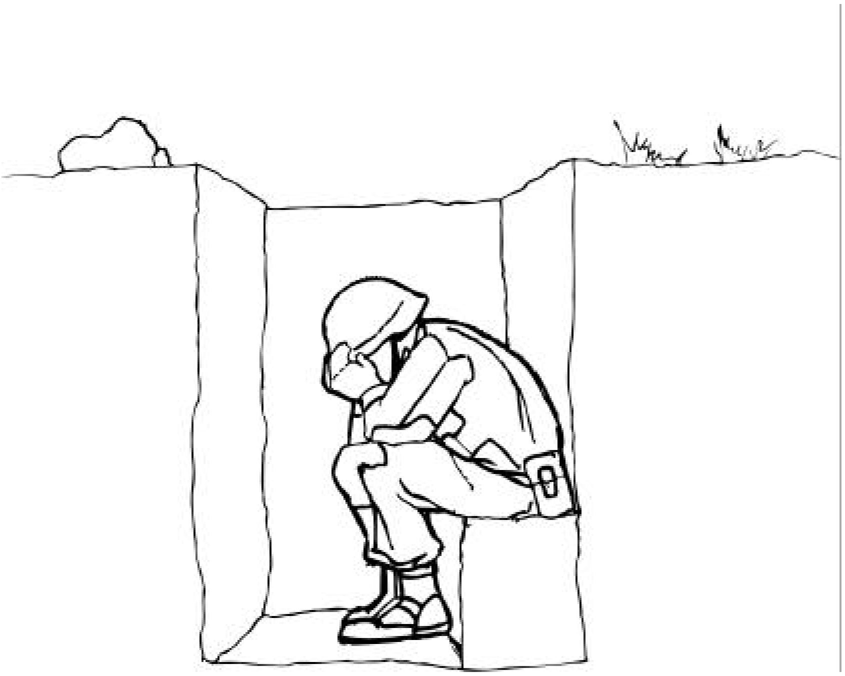


Figure 1

3. Maintain surveillance to the front, flanks, and rear.

a. The rifle squad provides for its own local security by maintaining constant observation to the front, flanks, and rear. Enough Marines are kept alert at all times to maintain an effective warning system against enemy air and ground activity. In open terrain during daylight, one sentinel per squad is usually sufficient. Under conditions of reduced visibility, one sentinel per fire team is usually assigned.

b. Sentinels should be relieved every 2 hours, day or night, to ensure they remain alert and effective. Prior to posting, they must be briefed on the location and activity of friendly and known enemy forces including patrols, password and countersign, and the location of the platoon and company command posts. Sentinels normally man the automatic rifle.

4. Respond to fire commands.

a. Purpose and importance. When an enemy target is discovered, leaders and squad members must define its location rapidly and clearly. When the squad or fire team leader has made a decision to fire on a target, he or she gives certain instructions as to how the target is to be engaged. These instructions form the fire command. The leader directs and controls the fire of his or her fire unit by fire commands.

b. Elements. There are six basic elements contained in a fire command that are always announced or implied. Fire commands for all weapons follow a similar order and include similar elements. Only essential elements are included. The six elements make up the acronym **ADDRAC**: **A**lert, **D**irection, Target **D**escription, **R**ange, Target **A**ssignment, and Fire **C**ontrol.

(1) *Alert*. This element alerts the fire unit to be ready to receive further information. It may also tell who is to fire. Usually, it is an oral command such as **SQUAD** or **FIRE TEAM**. The leader may alert only a few individuals by calling them by name. The alert may also be given by signals, personal contact, or by another method the situation may indicate.

(2) *Direction*. The direction element tells which way to look to see the target. The direction of the target may be indicated in one of the following ways:

(a) Orally. The general direction to the target may be given orally and should indicate the direction to the target from the unit. Figure 2 below shows the general directions used to indicate direction orally, for example: **RIGHT FRONT**.

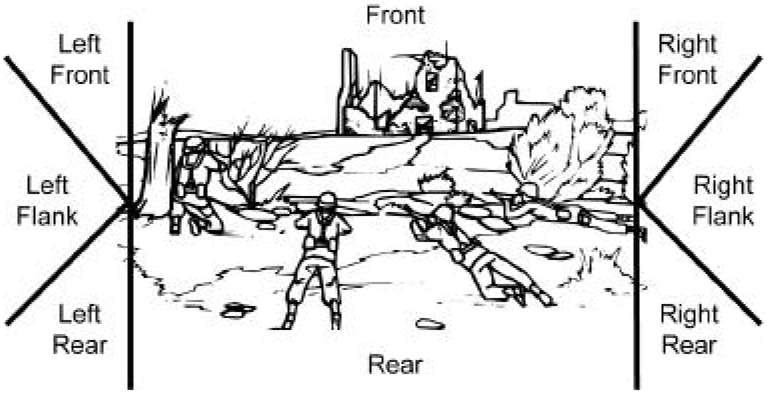


Figure 2

(b) Tracer ammunition. Tracer ammunition is a quick and sure way to indicate direction and is the most accurate method of pinpointing targets. Whenever possible, the squad leader should give the general direction orally. This will direct the squad's attention to the desired area, for example: **DIRECT FRONT. WATCH MY TRACER.** Leader fires first round. **RIGHT FLANK**. Leader fires second round. **LEFT FLANK**. Firing tracer ammunition to designated targets may give away the Marine's position, alert the enemy, and reduce the advantage of surprise. To minimize the loss of surprise, the leader may wait until all other elements of the fire command are given before firing his or her tracer. In this case, the firing of the tracer can be the signal to commence firing.

(c) Reference points. To help the members of the fire unit locate indistinct targets, the leader may use reference points to give direction to the target. He or she selects a reference point that is near the target and easy to recognize. When using a reference point, the word **REFERENCE** in describing the reference point and the word **TARGET** in describing the target are used. This prevents the members of the fire unit from confusing the two, for example: **SQUAD. DIRECT FRONT. REFERENCE: ROCK PILE IN DRAW. TARGET: SNIPER IN FIRST TREE TO THE RIGHT.**

(d) Finger Measurement. Distances across the front, known as lateral distances, are difficult to estimate in terms of meters. To measure the distance right or left of a reference point, or to measure the width of a target from one flank to another, finger measurements may be used. To utilize the finger method:

1. Hold your hand at arm's length in front of your face, palm facing away from you, fingers pointing up.

2. Close one eye and select a reference point.

3. Place one finger between the reference point and the target and fill that space by raising more fingers until the space is covered. For example: **SQUAD. DIRECT FRONT. REFERENCE: TALL TREE AT EDGE OF HEDGEROW, RIGHT TWO FINGERS. TARGET: MACHINEGUN.**

(3) *Target Description*. The third element of the fire command is a brief and accurate description of the target.

(4) *Range*. Range gives the information needed to set the sight or to adjust the point of aim. The word **RANGE** is not used; the range to target is simply stated in meters. For example: **ONE SEVEN FIVE, TWO FIVE ZERO,** or **FOUR HUNDRED.**

(5) *Target Assignment*. The target assignment element tells who is to fire on the target. It is broken down into two sub-elements: first, which units within the unit stated in the alert element are to fire, and second, which weapons will fire at the target and at what rate of fire.

(a) *Unit to fire*. The squad leader prescribes whether the entire squad will fire or whether only one or two fire teams will fire on the target. If the unit to fire is the same as announced in the alert element, it may be omitted from the target assignment element. When the squad leader intends to alert the entire unit, but plans to use only one or two fire teams to fire on a target, the target assignment element is included.

(b) *Weapons to fire and rates of fire*. Rifles and M203 grenade launchers are always fired at the average rate. The average rate of fire is measured in shots per minute and represents how long it takes for a rifleman or grenadier to select a target, align the sights, and squeeze off accurate shots. The automatic rifle fires either at the sustained rate or the rapid rate.

If	Then
Squad leader desires grenade launcher fire	He or she commands **GRENADIER**
Command **GRENADIER** is not given	Grenadiers do not fire the grenade launcher
Squad leader wants the automatic rifles fired at the rapid rate	He or she commands **RAPID** Rapid rate = 100 rounds per minute
Command **RAPID** is not given	Automatic riflemen fire at the sustained rate by default Sustained rate = 85 rounds per minute
Command **RAPID** is given	Automatic riflemen fire initially at the rapid rate for the first two minutes, then at the sustained rate, preventing the weapon from overheating

(c) The following is an example of the Target Assignment element: **FIRST TEAM; GRENADIER; RAPID.** For this command, only the first fire team engages the target. The rifleman and assistant automatic rifleman in the first fire team fire their M16A2s at the average rate. The fire team leader/grenadier fires his or her M203 at the average rate. The automatic rifleman fires his or her 249 semi-automatic weapon (SAW) at the rapid rate for the first 2 minutes and the sustained rate after that.

(6) Fire Control. The fire control element consists of a command or signal to open fire. If surprise fire is not required, the command **COMMENCE FIRING** normally is given without a pause as the last element of the fire command. When the leader wants all his or her weapons to open fire at once to achieve maximum surprise and shock effect, he or she will say **AT MY COMMAND** or **ON MY SIGNAL.** When all Marines are ready, the leader gives the command or signal to commence firing.

c. The following are examples of complete fire commands:

(1) In this example, the squad leader wants to place a heavy volume of surprise rifle and automatic rifle (sustained rate) fire from his or her entire squad on an easily recognized target: **SQUAD. DIRECT FRONT. TROOPS IN THE OPEN. THREE HUNDRED. AT MY COMMAND.**

(2) In this example, the squad leader desires to designate the target to his or her entire squad, but wants only the second fire team to engage it. He or she desires M203 fire on the target and the automatic rifleman to fire at the rapid rate. Because the target is indistinct, he or she uses a reference point: **SQUAD. RIGHT FRONT. REFERENCE: STONE HOUSE, RIGHT TWO FINGERS. TARGET: MACHINEGUN TEAM. TWO HUNDRED FIFTY. SECOND TEAM; GRENADIER; RAPID. COMMENCE FIRING.**

5. Demonstrate individual actions upon initiation of Final Protective Fires (FPF).

a. Final protective fires. If the enemy's attack is not broken and he or she begins his or her assault, FPFs are called. Final protective fires are the final attempt to stop the enemy attack before he or she reaches the platoon's battle position.

b. Individual actions for the FPF.

(1) Riflemen fire the M16A2 into their sector of fire at the average rate.

(2) Fire team leaders/grenadiers continue firing the M203 at the average rate, and fire at the largest concentrations of enemy troops within the fire team sector of fire.

(3) Assistant automatic riflemen fire the M16A2 into their sector of fire at the average rate.

(4) Automatic riflemen fire the 249 SAW within their sector of fire along their assigned principal direction of fire (PDF). If they aren't already firing at the rapid rate, they increase their rate of fire to the rapid rate.

6. Repel the enemy assault.

a. If the FPF does not break up the enemy's attack and he or she continues to advance, the enemy assault is repelled with fire, grenades, the bayonet, and hand-to-hand combat.

b. The squad does not withdraw or vacate the defensive position except when directed by higher authority.

7. On order, displace to supplementary/alternate positions.

a. Alternate and supplementary fighting positions.

(1) Alternate fighting positions are often located behind the primary fighting positions and are used when the primary position becomes untenable. Alternate fighting positions maintain the same sectors of fire as the primary fighting positions.

(2) Supplementary fighting positions are used to guard against attack from directions other than those from which the main attack is expected. A supplementary position is a secondary position and does not cover the same sector of fire as the primary position.

b. Movement to alternate and supplementary fighting positions.

(1) Prior to moving Marines to alternate or supplementary fighting positions, the squad leader, if possible, requests the approval of the platoon commander. When it is not possible to request permission, the squad leader notifies the platoon commander of his or her action as soon as possible.

(2) The squad leader avoids moving an entire fire team to alternate or supplementary fighting positions, but instead moves one or two Marines from each fire team, depending on the number required to protect the flank or rear. In any case, Marines moving to alternate or supplementary fighting positions follow the route which affords the best cover.

REFERENCE(S):

FMFM 6-5 *Marine Rifle Squad*

AMMUNITION:

DODIC	NONMENCLATURE	INITIAL PROFICIENCY	PER ITERATION	ANNUAL SUSTAINMENT
A075	CTG 5.56MM, BLANK, LINKED	25.000 EA	25.000 EA	25.000 EA
A080	CTG 5.56MM, BLANK, (IN CARTONS)	25.000 EA	25.000 EA	25.000 EA
B535	CTG 40MM, WHITE STAR PARACHUTE	0.250 EA	0.250 EA	0.250 EA
L598	SIMULATOR, FLASH, BOOBYTRAP	0.120 EA	0.120 EA	0.120 EA
L599	SIMULATOR, ILLUM, BOOBYTRAP	0.150 EA	0.120 EA	0.120 EA

ADMINISTRATIVE INSTRUCTIONS:

Marines operating with crew-served weapons should defend a position appropriate for the weapon system.

TASK: **MCCS.16.01 (CORE) THROW AN M67 FRAGMENTATION GRENADE**

CONDITION: **GIVEN GRENADES AND WEARING A FLAK JACKET, HELMET, AND LOAD BEARING VEST WITH GRENADE POUCHES.**

STANDARD: **TO ENSURE THE TARGET IS WITHIN THE EFFECTIVE CASUALTY RADIUS OF THE GRENADE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided a tactical scenario in any combat environment, individual combat equipment (782 gear), helmet, body armor, ear plugs, hand grenades, and a target.

Standard: The Marine must inspect, carry, and prepare hand grenades for throwing, and effectively engage targets within five meters, using one of the positions discussed below.

PERFORMANCE STEPS:

1. Remove grenade from grenade pouch.

- In coordination with Step 2, carefully remove the grenade from the pouch.

2. Inspect grenade for defects.

a. Check the grenade fuze assembly for tightness.

NOTE: The fuze must be tightly fitted to the grenade fuze well. If the fuze is loose, obtain another grenade.

b. Check the safety pin pull ring and the safety pin (figure 1) to ensure they are securely attached to the fuze.

c. Check the safety clip and make sure it is attached to the fuze and safety lever as shown in figure 1.

d. Check the safety lever and make sure the safety lever is not broken.

NOTE: If the safety lever is broken, obtain another grenade.

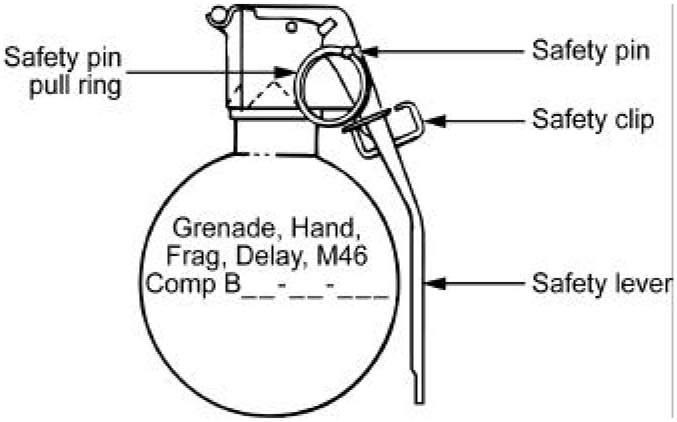


Figure 1

3. *Estimate the range to the target.*

- Based on guidance from the range safety officer, observe and estimate the distance to the targets in the impact area.

4. *Assume standing throwing position.*

- Assume the standing position to allow the greatest throwing distance as shown in figure 2.

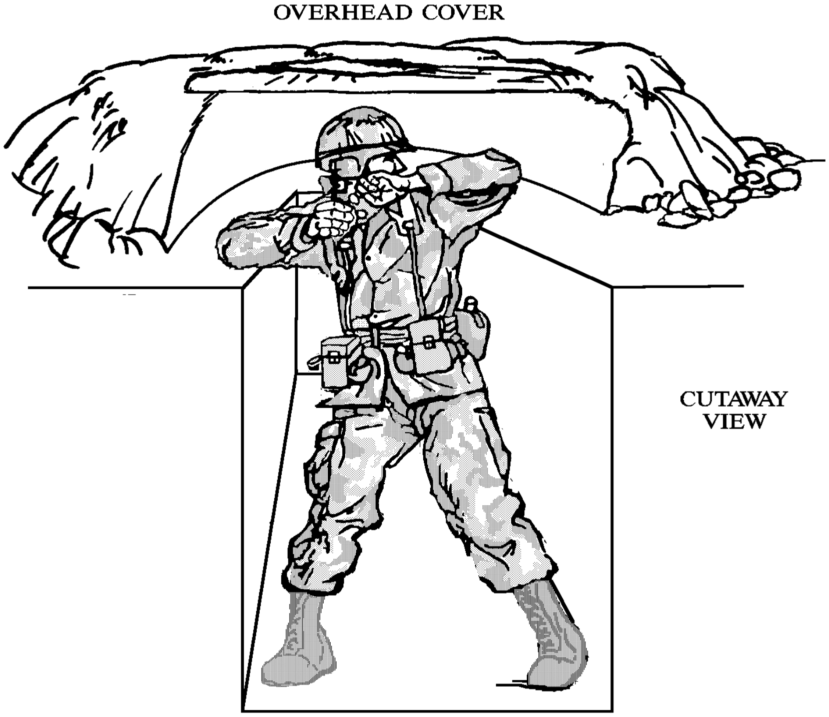


Figure 2

(1) Stand half facing the target with your weight balanced evenly on both feet.

(2) Hold grenade in front of your body, shoulder high; then remove the safety clip.

(3) Hook forefinger of your other hand through the safety pin pull ring attached to the safety pin as shown in figure 1.

(4) Remove the safety pin by pulling and twisting the safety pin pull ring.

(5) Throw grenade and follow through by stepping forward as you throw.

(6) Fall forward, face down, on the ground.

NOTE: When possible, keep your eye on the target to observe the strike of the grenade to make corrections, if necessary, in the next throw.

5. Prepare grenade for throwing.

a. Grip the hand grenade firmly as shown in figures 3 and 4.

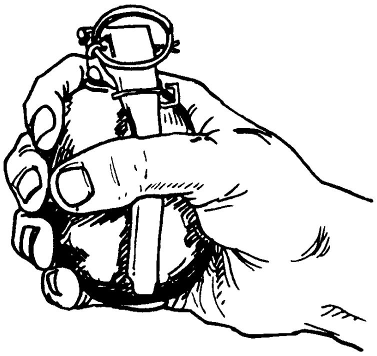


Figure 3

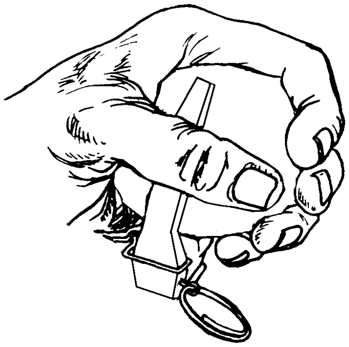


Figure 4

b. Hold the safety lever down firmly under your thumb.

NOTE: Left-handed throwers should ensure the top of the fuze points down.

6. Engage target with grenade.

- From the standing position engage your target.

REFERENCE(S):

FM 23-30, *Grenades and Pyrotechnic Signals*

TASK: **MCCS.16.02 (CORE) ENGAGE TARGETS WITH THE AT-4**

CONDITION: **GIVEN AN M287 9MM TRACER BULLET TRAINING DEVICE, TARGETS AT 100, 200, AND 300 METERS, SIX ROUNDS, AND 782-GEAR.**

STANDARD: **TO ACHIEVE THREE HITS OUT OF SIX ROUNDS FIRED.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a tactical scenario in any combat environment (day and night), an AT-4, all individual combat equipment (782 gear), and enemy armored targets.

Standard: The Marine must handle the weapon safely at all times, prepare the AT-4 for firing, estimate range to target, respond to fire commands, aim, fire, and hit enemy armored targets. The Marine must also perform immediate action for a misfire and make sure the weapon is completely safe.

PERFORMANCE STEPS:

1. *Handle the weapon safely.*

- Follow the four safety rules.

SAFETY RULES	
Rule 1	Treat every weapon as if it were loaded.
Rule 2	Never point a weapon at anything you do not intend to shoot.
Rule 3	Keep your finger straight and off the trigger until you are ready to fire.
Rule 4	Keep the weapon on safe until you intend to fire.

2. *Prepare the weapon for firing.*

NOTES: Inspection is limited to a visual examination of the external components.

The launcher is completely sealed because the AT-4 is issued as a round of ammunition.

a. Make sure the transport safety pin is in place, fully inserted, and the lanyard is attached.

b. Make sure the cocking lever is in the SAFE position and folded down.

c. Make sure the fire-through muzzle cover is intact.

(1) Cut out the seal if the fire-through muzzle cover is torn to make sure there are no foreign objects inside the launcher tube.

(2) Turn down the tube muzzle and shake it gently to remove any foreign objects.

d. Make sure the launcher has a black color-code band.

e. Make sure the sights function properly.

- Open sight covers to make sure the sights pop up and are not damaged.

f. Make sure the red safety catch does not move when depressed.

g. Make sure the rear seal is not cracked or damaged. The rear seal is inside the venturi and is made of brown plexiglas.

NOTE: Before firing, make sure there are no foreign objects obstructing the rear of the launcher (backblast area).

WARNING: Insert your earplugs. Keep the weapon pointed toward the target and keep backblast area clear.

h. Remove the launcher from the carrying position and cradle it in your left arm as shown in figure 1.

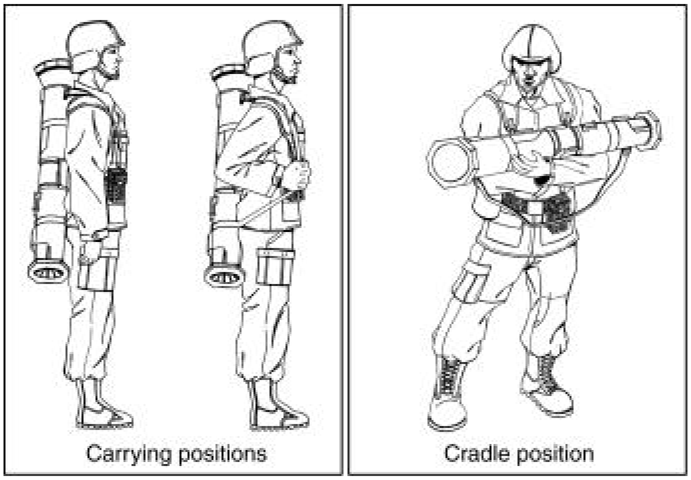


Figure 1

i. Remove the transport safety pin by pulling it out with your right hand and releasing it as shown in figure 2.

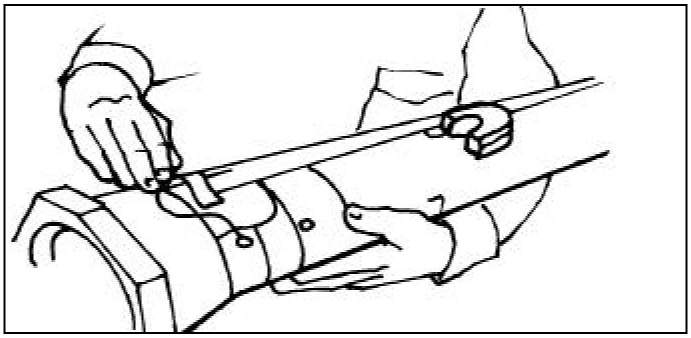


Figure 2

NOTE: Make sure the transport safety pin is attached to the lanyard and the lanyard is attached to the launcher. If it is not attached, keep the transport safety pin. It must be reinserted if the launcher is not fired.

j. Unsnap the shoulder strap and unfold it as shown in figure 3.

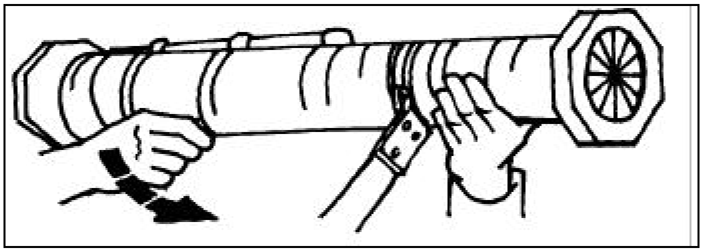


Figure 3

k. Place the launcher on your right shoulder.

l. Release the sights as shown in figure 4.

  (1) Release the front sight by pressing down on the sight cover and sliding the cover to the rear.

  (2) Release the rear sight by pressing down on the rear sight cover and sliding the cover to the front.

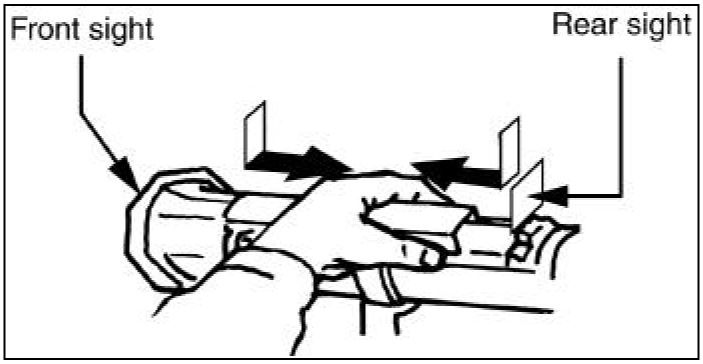


Figure 4

m. Cock the launcher by unfolding the cocking lever with your right hand as shown in figure 5.

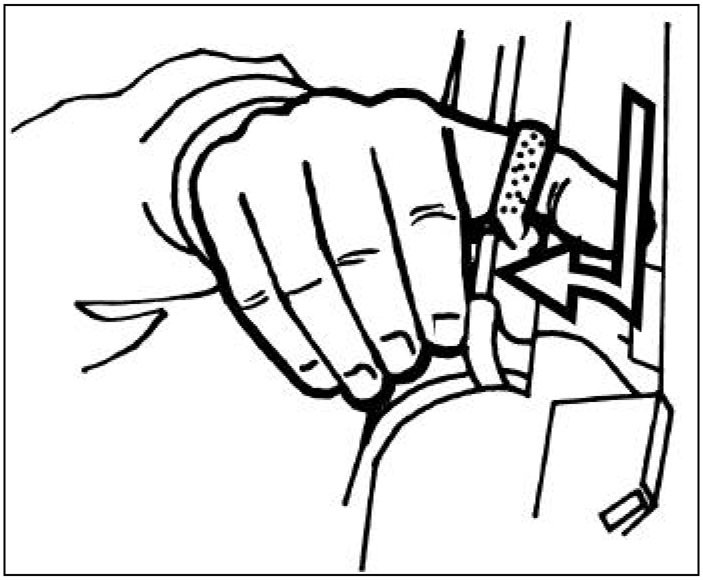


Figure 5

n. Press the shoulder stop against your shoulder as shown in figure 6.

(1) Grasp the carrying sling near the muzzle with your left hand.

(2) Pull back on the carrying sling until the shoulder stop is snug against your shoulder.

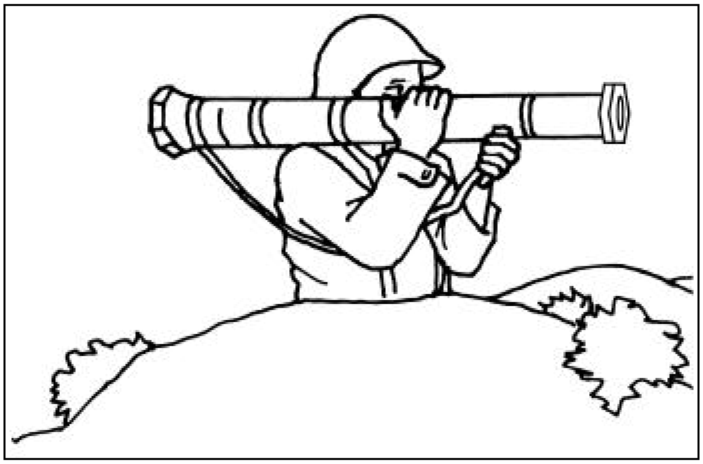


Figure 6

o. Adjust the rear sight.

(1) Adjust the rear sight range setting if the target range is more than 250 meters. If the target range is less than 250 meters, no adjustment is necessary.

(2) Turn the range setting knob toward the desired settings as shown in figure 7.

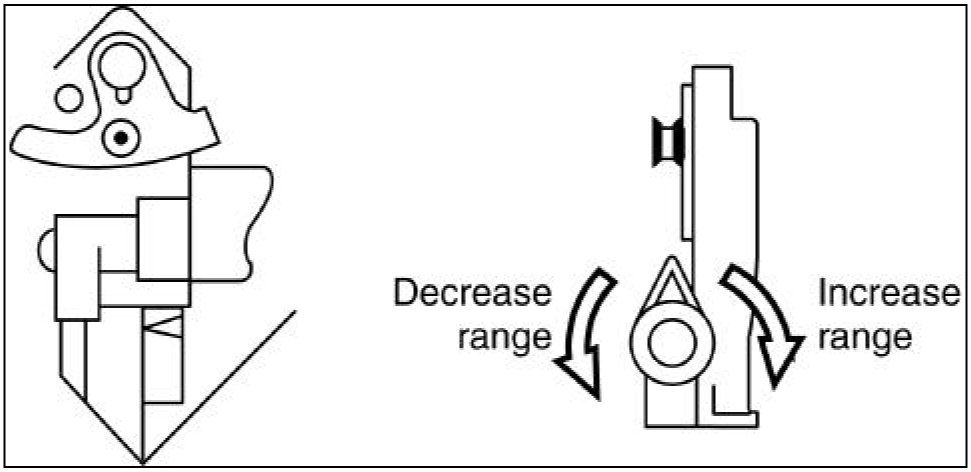


Figure 7

3. *Estimate range to target.*

a. The two methods to estimate range to target are the mental unit of measure and appearance of object methods.

b. Estimate the range to target by eye using the mental unit of measure method.

(1) Visualize a 100-meter distance on the ground as shown in figure 8.

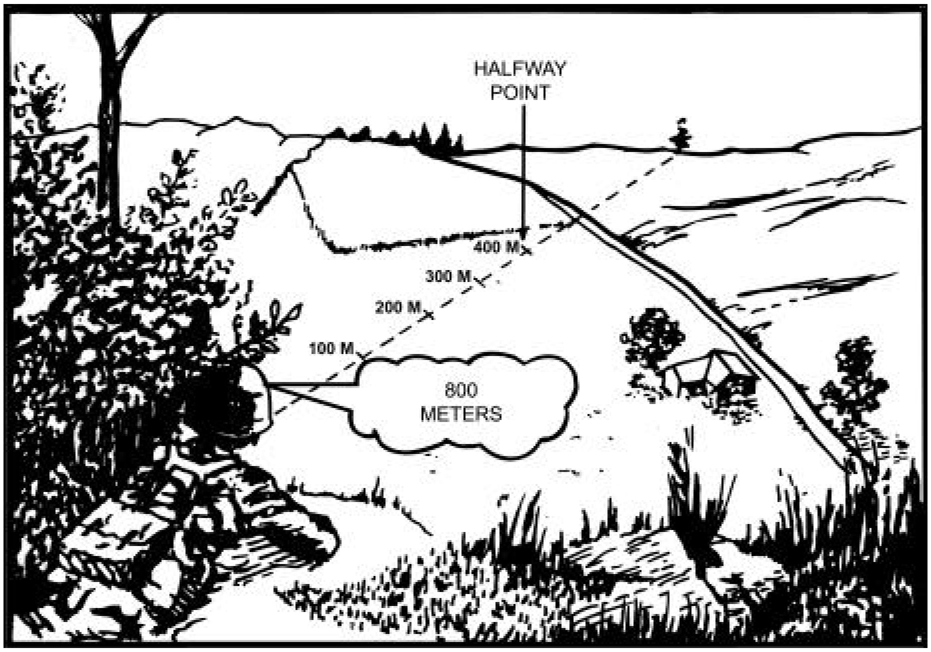


Figure 8

NOTES: Sloping ground changes the appearance of 100-meter lengths. Ground that slopes upward makes these distances look longer than 100 meters and ground that slopes downward makes these distances look shorter than 100 meters. Thus, the tendency is to underestimate 100-meter lengths on up slopes and overestimate them on down slopes.

The accuracy of the 100-meter method depends on how much ground is visible. However, this method is most true at long ranges. It is hard to use this method with accuracy if a target is at a range of 500 meters or more and you can only see part of the ground between yourself and the target.

(2) Mentally determine how many of these 100-meter units are between your position and the target.

NOTE: Mental estimates should be checked by pacing off distance. The average man takes about 130 steps per 100 meters.

(3) For distances beyond 500 meters as shown in figure 9, perform the following procedure:

   (a) Pick a point halfway to the target.

   (b) Count the number of 100-meter lengths to the halfway point.

   (c) Double that number to get the range to the target.

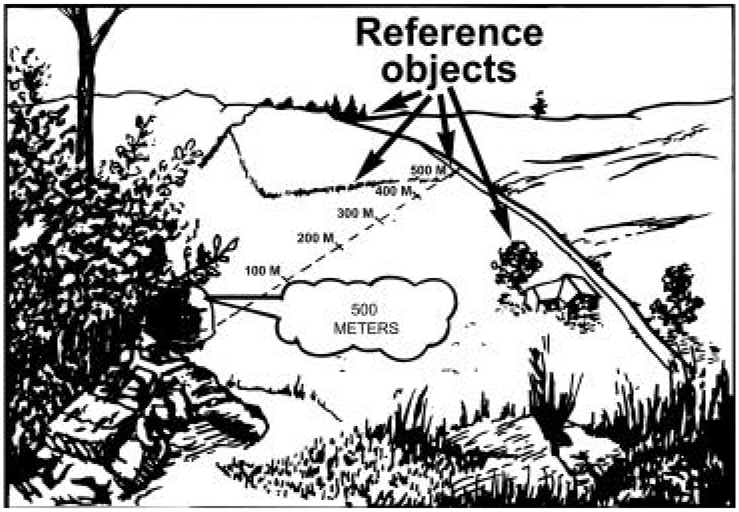


Figure 9

c. Estimate the range to target by eye using the appearance of object method.

NOTE: When there are hills, woods, or other obstacles between the observer and target, or where most of the ground is hidden from view, it is impractical to apply the mental unit of measure method to determine range. In such cases, another method, based on appearance of objects, may be used. Through practice, the Marine will learn how objects familiar to him appear at various known ranges.

(1) Watch a person when he or she is standing 100 meters away.

(2) Fix the appearance of the individual and the details of his or her features and equipment firmly in your mind. Watch him or her in the kneeling position, then in the prone position.

(3) Compare the appearance of a person at 100, 200, 300, and 500 meters.

NOTE: A series of mental pictures is now established.

(4) When time and conditions permit, accuracy can be improved by averaging a number of estimates by different Marines to determine the range.

4. *Respond to fire commands.*

a. A complete fire command consists of six elements, easily remembered by the memory aid **ADDRAC**.

ALERT

DIRECTION

DESCRIPTION

RANGE

ASSIGNMENT

CONTROL

b. The squad leader issues the following fire commands and the Marine reacts accordingly.

(1) To **ALERT** you: "SQUAD," "FIRE TEAM," etc.

(2) For **DIRECTION** of target: "RIGHT FRONT," "LEFT FRONT," etc.

(3) For accurate **DESCRIPTION** of target: "ROCK PILE IN DRAW," "TALL TREE AT EDGE OF HEDGEROW," "STONE HOUSE," "RIGHT OF STONE HOUSE, SMALL SHED," etc.

(4) For **RANGE** setting: "ONE-SEVEN-FIVE," "TWO-FIVE-ZERO," "FOUR-HUNDRED," etc.

(5) For target **ASSIGNMENT**: "AUTOMATIC RIFLEMAN; RAPID," "FIRST TEAM; ASSAULT RIFLEMAN; RAPID," etc.

(6) To fire (**CONTROL**): "COMMENCE FIRING," "ON MY SIGNAL," "AT MY COMMAND..."

EXAMPLE OF COMPLETE FIRE COMMAND:

"SQUAD"
"RIGHT FRONT"
"TROOPS IN TRENCH LINE"
"TWO-FIVE-ZERO"
"AUTOMATIC RIFLEMAN, SUSTAINED RATE, FIRST TEAM, AT THE RAPID RATE,"
"ALL OTHERS, FIRE AND MANEUVER LEFT."
"COMMENCE FIRING"

5. *Engage target.*

a. Press the red safety catch all the way to the left with the index and middle finger of your right hand; hold it as shown in figure 10.

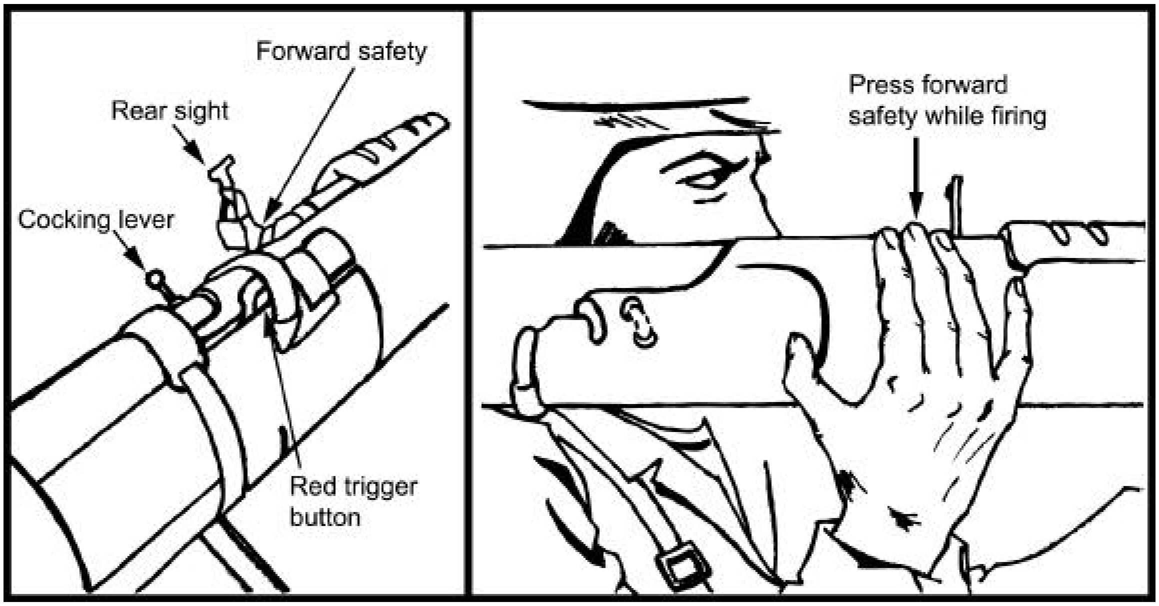


Figure 10

b. At the same time, pull the launcher into your shoulder with your right hand against the forward edge of the firing mechanism housing.

c. Obtain a proper sight picture.

d. Fire the launcher.

(1) Apply pressure straightforward with the thumb of your right hand in a steady smooth movement.

6. *Perform misfire procedures, as required.*

NOTE: A misfire is a complete failure to fire that may be due to a faulty firing mechanism or a faulty element in the propelling charge explosive train.

a. Shout, **"MISFIRE"** immediately after the launcher fails to fire.

b. Maintain the original sight picture.

c. Release the red safety catch.

d. Recock the cocking lever.

e. Check the backblast area, aim; fully depress and hold down the red safety catch.

f. Press the red trigger button.

g. Repeat steps a through d if the launcher still fails to fire.

h. Release the red safety catch and return the cocking lever to SAFE.

i. Remove the launcher from your shoulder and keep the muzzle pointing to the target.

j. Reinsert the transport safety pin.

k. Dispose of the faulty launcher according to the current unit standard operating procedure.

REFERENCE(S):

FM 23-25, *Light Anti-Armor Weapons*

AMMUNITION:

DODIC	NOMENCLATURE	INITIAL PROFICIENCY	PER ITERATION	ANNUAL SUSTAINMENT
K139	MINE KIT, APERS, PRACTICE, M68	0.250 EA	0.100 EA	0.100 EA

TASK: **MCCS.16.03 (CORE) EMPLOY THE M18A1 CLAYMORE MINE**

CONDITION: **GIVEN AN M18A1 CLAYMORE MINE.**

STANDARD: **TO PERFORM INSTALLATION AND RECOVERY PROCEDURES FOR ELECTRICAL DETONATION PER THE REFERENCE.**

> EVALUATION GUIDELINES TO BE USED DURING TRAINING:
>
> *Condition:* Given a tactical defensive scenario in any combat environment (day and night), an M7 bandoleer containing an M18A1 Claymore mine, M57 firing device, M40 test set, firing wire, blasting cap, E-tool, individual combat equipment (782-gear), wood stakes, helmet, and body armor.
>
> *Standard:* The Marine must perform circuit testing, install, arm, camouflage, and fire the M18A1 mine to cause detonation, or recover the mine without causing accidental detonation.
>
> *Administrative Note:* During training, the Marine will wear 782-gear, helmet, and body armor. When armed with a rifle, the rifle will be positioned over the Marine's back, using the sling or placed alongside the Marine with the muzzle pointing towards the enemy.

PERFORMANCE STEPS:

1. *Perform circuit testing.*

a. Remove the dust covers from the connectors of the M57 firing device and the M40 test set as shown in figure 1.

b. Mate the firing device and test set. The shorting plug cap must be pushed into the test set.

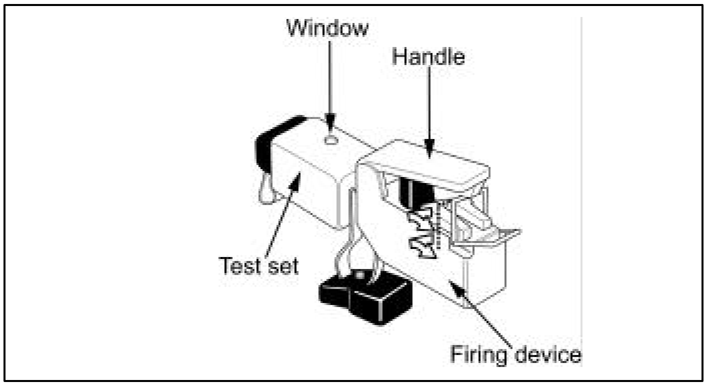


Figure 1

c. From the SAFE position, the bail must travel left, then down to properly unlock as shown in figure 2. Set the bail to the firing position.

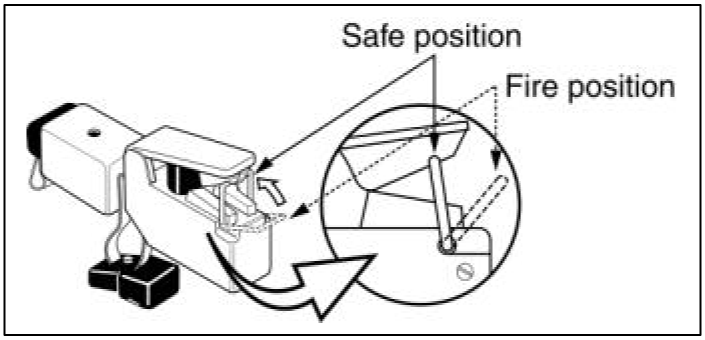


Figure 2

NOTE: The safety bail swings between the FIRE position and SAFE position.

d. Test the firing device and test set. As the handle on the firing device is depressed, a light should show in the window of the test set, indicating a positive test.

NOTE: For testing at night, use a poncho to maintain light discipline.

e. If the test light fails to light, refer to the table below:

If…	**And…**	**Then…**
The light does not flash	The firing device, test set, and shorting plug are fully seated	Retest.
The light continues to flash	A component is not functioning	Isolate each part, replace with a serviceable component, inspect each part, and retest after each part is replaced until the test light flashes.

f. Return bail to the SAFE position.

g. Mate the firing wire connector with the test set as shown in figure 3.

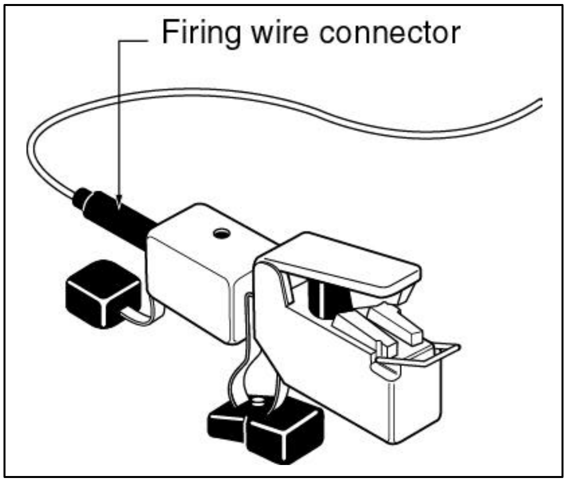


Figure 3

h. Place the blasting cap and spool under a sandbag or in a hole to protect against detonation as shown in figure 4.

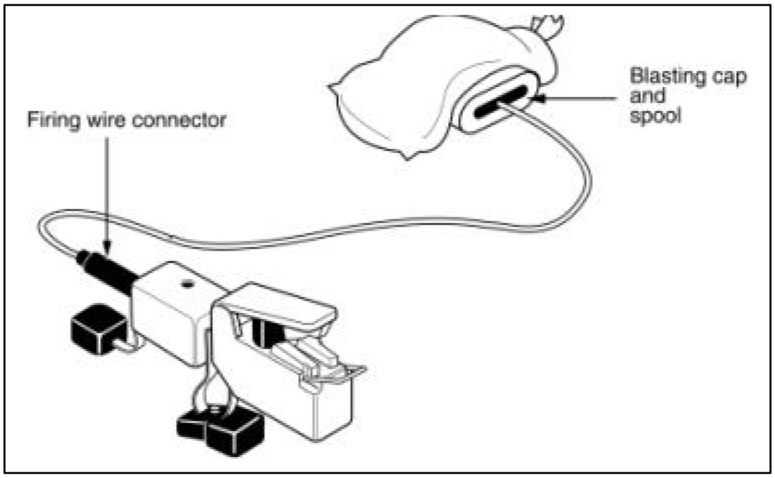


Figure 4

i. Depress the handle and check for a light in the test set window.

NOTE: The presence of a light indicates a good system.

j. Return the bail to the SAFE position.

k. Remove the firing wire connector and replace the shorting plug to the firing device.

l. Return components to the M7 bandoleer until required.

NOTE: Firing devices will be maintained at all times by the individual who is installing the mine.

2. Emplace the mine.

a. Put the shorting plug back on the firing wire connector.

b. Tie the shorting plug end of the firing wire to a fixed object such as a stake or tree at the firing position.

c. Select a site within 250 meters of the desired sector of fire (kill zone) as shown in figure 5.

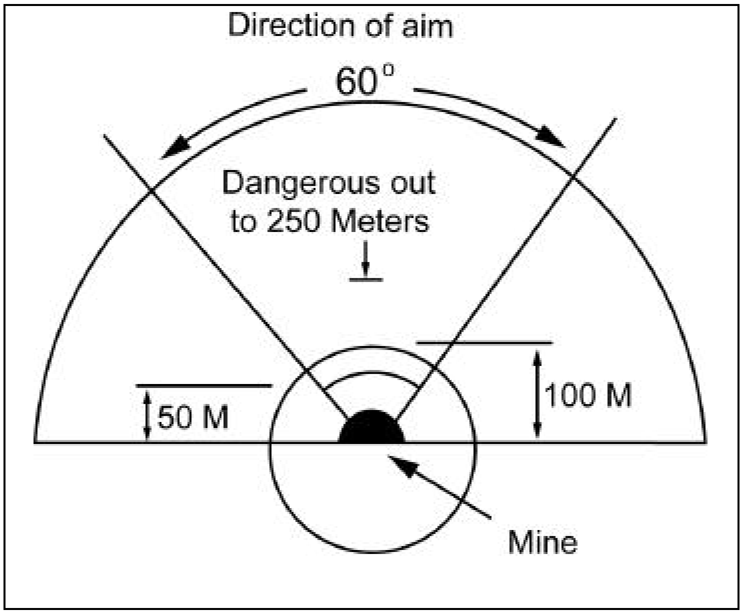


Figure 5

CAUTION: Make sure the friendly troops are no closer than 16 meters to the rear of the mine. If within 16 to 100 meters of rear, ensure cover is available. During installation, the M57 firing device must be kept beside the Marine installing the mine to prevent accidental firing by another Marine.

d. Place bandoleer on your shoulder and unroll the firing wire to the selected position for placing the mine.

e. Remove the mine from the bandoleer. Open both pairs of legs to a 45-degree angle with two legs facing the front and two legs facing the rear of the mine as shown in figure 6.

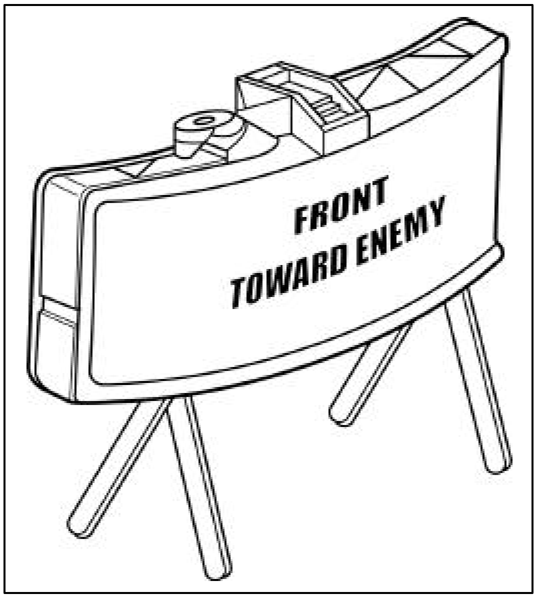


Figure 6

f. Position the mine on the ground with the words "FRONT TOWARD ENEMY" pointing toward the kill zone.

g. Push the legs about one-third of the way into the ground.

NOTE: There are two types of sights on the M18A1 Claymore mine. They are the slit-type peep sight and the knife-edge sight. Step 3 b. is specific to the slit-type peep sight. Step 3 c. is specific to the knife edge sight.

3. *Aim the mine.*

a. Position your eye about 6 inches to the rear of the sight and aim the mine toward the center of the target area.

b. Using the SLIT-TYPE PEEP SIGHT, select an aiming point (tree, rock, etc.) about 50 meters (approximately 150 feet) to the front of the mine and about 2½ meters (8 feet) above the ground as shown in figure 7.

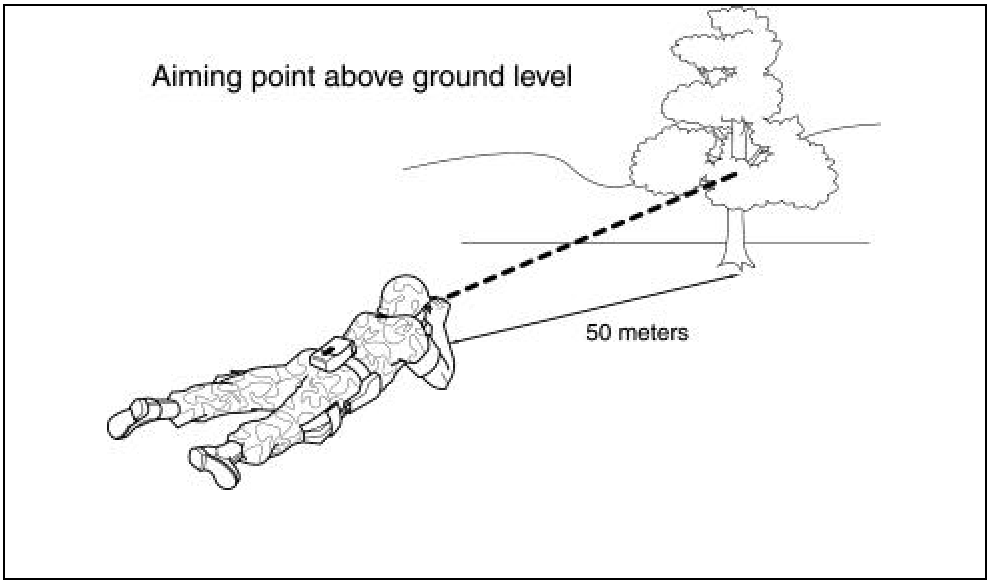

Aiming point above ground level
50 meters

Figure 7

NOTE: The groove of the sight should be in line with the aiming point.

c. Using the KNIFE-EDGE SIGHT, select an aiming point at ground level about 50 meters (approximately 150 feet) in front of the mine in figure 8.

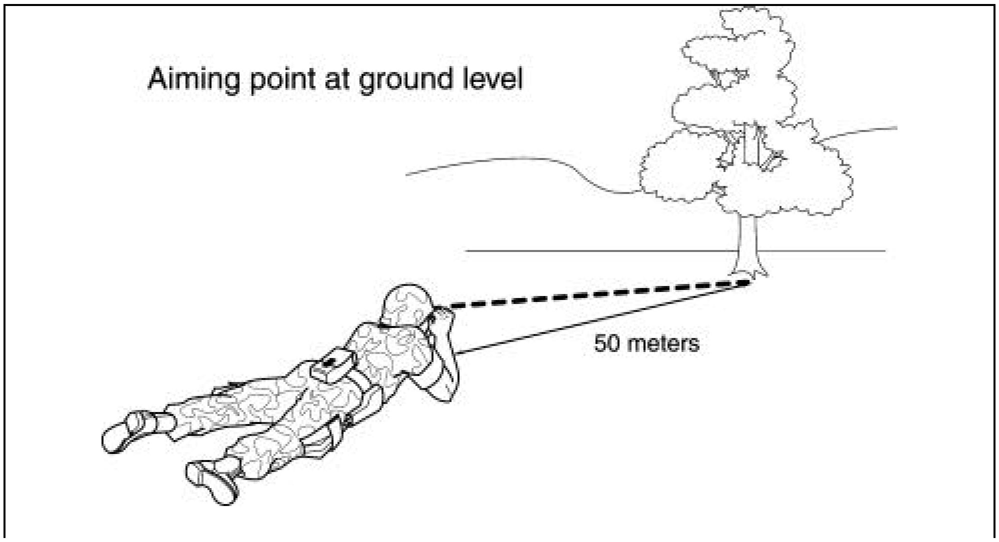

Aiming point at ground level
50 meters

Figure 8

4. *Arm the mine.*

a. Make sure that the firing device is in your possession.

b. Unscrew one of the shipping plug priming adapters and carefully slide the slotted end of the priming adapter onto the firing wire of the blasting cap, between the crimped connection and the blasting cap as shown in figure 9.

c. Insert the blasting cap into the detonator well, and screw in the adapter.

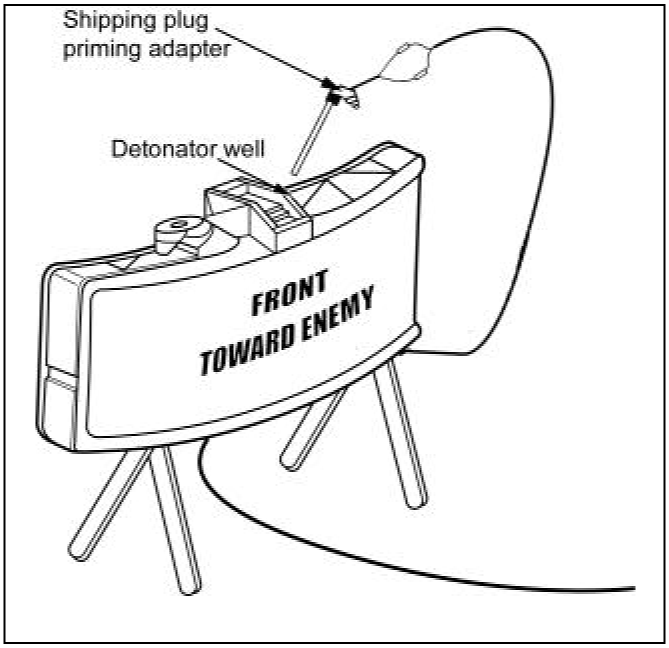


Figure 9

WARNING: To avoid premature detonation, do not drop the blasting cap! Always point the blasting cap out and away from the body.

d. Secure the firing wire to an anchor point about 1 meter to the rear of the mine so that the mine will not become misaligned if the wire is disturbed.

5. *Camouflage the mine and the firing wire.*

NOTE: The terrain will determine the type and amount of camouflage needed. Remember that your camouflage must blend the mine with the surrounding area so the enemy is unable to visually detect it.

a. Recheck the aim of the mine.

b. Bury the firing wire, if possible, and move back to your firing position.

6. *Retest the circuit.*

a. Retest the circuit with the M40 test set after the firing wire is laid out and after the blasting cap is placed inside the mine.

NOTE: To retest the circuit, see *step 1, Perform circuit testing*.

WARNING: Make sure all friendly troops within 250 meters to the front and sides and 100 meters to the rear of the mine are under cover. Position yourself behind cover or in a fighting position when retesting the circuit with a blasting cap inserted in the mine.

b. Make sure the safety bail on the M57 firing device is in the SAFE position until ready for use.

NOTE: In a training situation, do not leave the firing device connected to the firing wire until the actual time of firing.

7. *Detonate the mine as directed.*

a. Position the firing device safety bail to the FIRE position when the lead element of enemy formation approaches within 6-9 meters (20-30 feet) of the mine.

b. Squeeze the firing device handle with a firm, quick squeeze to fire the mine.

8. *Recover the mine as directed.*

a. Place the M57 firing device safety bail in the SAFE position.

b. Disconnect the firing wire from the M57 firing device and replace the dust covers on the connectors.

NOTE: Make sure that you keep the firing device with you throughout the recovery process.

c. Untie the firing wire from the anchor point at the firing position.

d. Move to the Claymore and unscrew and remove the priming adapter from the mine.

e. Remove the blasting cap from the priming adapter and place it back on the firing wire.

f. Screw the adapter back into the detonating well.

g. Remove the firing wire from the anchor point, and place the blasting cap inside the firing wire reel.

h. Pick up the mine and secure the folding legs against the bottom of the mine.

i. Roll up the firing wire.

j. Repack the mine and accessories into the M7 bandoleer.

REERENCE(S):

FM 23-23, *Antipersonnel Mine M18A1 Claymore*

AMMUNITION:

DODIC	NOMENCLATURE	INITIAL PROFICIENCY	PER ITERATION	ANNUAL SUSTAINMENT
K139	MINE KIT, APERS, PRACTICE, M68	0.250 EA	0.100 EA	0.100 EA

ADMINISTRATIVE INSTRUCTION:

This task may be trained to standard with Claymore training devices.

TASK: **MCCS.16.04 (CORE) EMPLOY GROUND PYROTECHNICS**

CONDITION: **GIVEN A GROUND PYROTECHNIC DEVICE.**

STANDARD: **TO PERFORM INSTALLATION AND RECOVERY PROCEDURES PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a tactical scenario in any combat environment (day and night), an M49A1 trip flare, trip wire, field wire or string, engineer tape, trees or stakes, and direction of probable enemy advance.

Standard: The Marine must emplace, arm, camouflage, and recover an M49A1 trip flare without causing an accidental detonation.

PERFORMANCE STEPS:

1. *Emplace the pyrotechnic using the trip wire activated function (M49A1 trip flare (pull-pin method)).*

NOTE: The burning period of the M49A1 trip flare is 55 to 70 seconds, the illumination radius of the trip flare is 300 meters, and a taut or loose trip wire initiates the trip flare.

CAUTION: The trip flare produces approximately 50,000 candlepower of illumination. Never look directly at a burning flare because it can damage your eyes.

- Please refer to the following table and figure 1 to emplace the pyrotechnic using the trip wire activated function.

Step	Action
1	Attach the trip flare to a post or tree in a vertical position between 15 to 18 inches above the ground using the mounting bracket. Position the flare to illuminate the field toward the enemy.
2	Lower the trip flare into the mounting bracket. Slide the flare downward until the bottom edge of the lever is within approximately 1/16 of an inch above the mounting bracket.
3	Tighten the upper wingnut to clamp the flare into the mounting bracket.

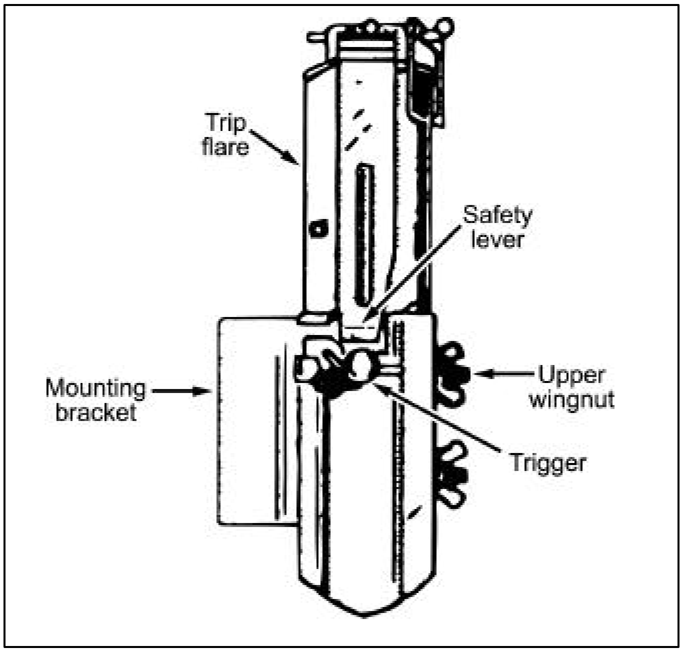


Figure 1

2. *Arm the pyrotechnic.*

- Please refer to the following table and figures 1 and 2 to arm the pyrotechnic.

Step	Action
1	Attach the trip wire to an anchor, then to the trigger (figure 1).
2	Pull on the trip wire until the trigger is in a vertical position over the safety lever and secure it (figure 1). **NOTE:** For the loose trip wire initiation, attach the trip wire to the eye of the safety pin on the top of the trip flare.
3	Depress the safety lever against the flare.
4	Ensure the trigger is in a vertical position over the safety lever.
5	Remove the safety clip.
6	Carefully release hold on the lever, allowing the lever to rest against the trigger. **NOTE:** The trip flare is now armed.

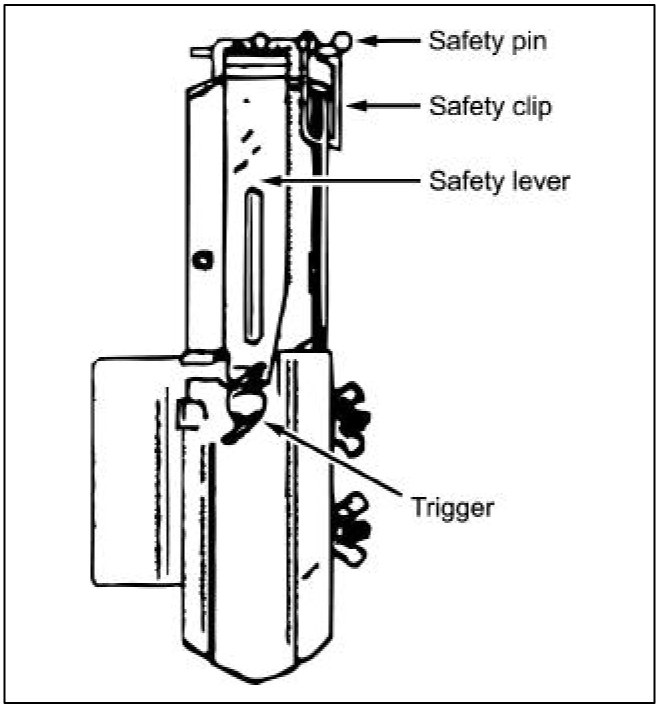


Figure 2

3. *Camouflage the pyrotechnic.*

NOTE: The terrain will dictate what type of camouflage to use. The important factor is to conceal the trip flare from the enemy's view. Ensure your camouflage is positioned where it will **not** catch on fire. If possible, position your camouflage out in front of your trip flare and **not** on top of it.

4. Recover the pyrotechnic as required.

a. Remove the camouflage.

b. Insert the safety clip.

c. Cut the trip wire near the trigger.

d. Unscrew the top wingnut on the bracket and remove the flare.

e. Remove the mounting bracket from where it is mounted.

REFERENCE(S):

FM 23-30, *Grenades and Pyrotechnic Signals*

AMMUNITION:

DODIC	NOMENCLATURE	INITIAL PROFICIENCY	PER ITERATION	ANNUAL SUSTAINMENT
L495	FLARE, SURFACE, TRIP, M49A1	1.000 EA	0.200 EA	0.200 EA

TASK: **MCCS.17.01 (CORE) MARCH UNDER AN EXISTENCE LOAD**

CONDITION: **GIVEN AN ASSIGNMENT AS A MEMBER OF A SQUAD, AN EXISTENCE LOAD, AND ASSIGNED WEAPON.**

STANDARD: **TO COMPLETE A 15-KILOMETER MARCH WHILE MAINTAINING ASSIGNED INTERVAL IN THE SQUAD PER THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given an assignment as a member of a squad, an existence load, and assigned weapon.

Standard: The Marine must complete a 15-kilometer march while maintaining assigned interval in the squad per the references.

GENERAL INFORMATION:

a. *Existence Load.* The existence load consists of items other than those in the fighting load that are required to sustain or protect the combat Marine. This is necessary in order to increase personal and environmental protection that is not normally carried by the individual. The existence load is normally carried by the Marine's unit marching, but not engaged in combat. A Marine may be expected to carry a maximum of 50 pounds of supplies and equipment.

b. March planning is based on the planning conducted at battalion level and may be organized light antitank weapon (LAW) with the following sequence.

(1) *Receive the Mission.* The unit receives the mission to conduct a road march. The planning process begins with the commander and staff conducting a hasty mission analysis to determine critical times and tasks to accomplish.

(2) *Preparation and Issuance of the Warning Order.* To allow subordinate units the required time to prepare for a pending move, a warning order is issued that contains all available information about the march. The planning time available determines the time of issuance and the content of the warning order.

(3) *Estimate of the Situation.* In the operation estimate, the S3 (operations chief) considers the mission, weather, terrain, time and space factors, available routes, available transportation, enemy capabilities, disposition of own forces, physical condition and training of troops, and courses of action available. The S3 then recommends to the commander which course of action to accept. Based upon the commander's decision, the staff then prepares the movement order.

(4) *Development of Detailed Movement Plans.* After the commander has selected a course of action, an OPORD (operation order) is prepared. See FM 101-5-1, *Operational Terms and Graphics,* for a detailed discussion of the estimate of the situation. To develop these plans, the commander or staff must consider the following.

(a) *Column organization.* To facilitate control and scheduling, units are organized into serials and march units, and are given an order of march.

1. March unit: A unit of command that moves and halts at the command of a single commander. The march unit normally corresponds to one of the smaller troop units such as a squad, section, platoon, or company.

2. March serial (referred to as a serial): Consists of one or more march units that are organized under the senior officer and are given a specific numerical or alphabetical designation to facilitate control. The march units of the serial normally possess the same march characteristics. A serial is usually a battalion or larger unit, but can be a company if marching alone.

3. March column (referred to as a column): Consists of elements of a command that are moving over the same route and can consist of one or more serial. A column commander is designated to facilitate control. A column is normally a brigade or larger unit but can be a battalion if marching alone.

(b) *March formations.* The formation for foot marches varies depending on the routes available and the enemy situation. The usual formation for tactical marches is a column of two files with one file on each side of the road or in single file. The column commander designates the side of the road on which the troops are to march, or whether both sides of the road are to be used. Based on the enemy ground threat, the column forms into a route column, tactical column, or approach march.

1. Route column (also called an administrative column): Enforced when the likelihood of ground contact with the enemy is remote. Administrative considerations govern movement; therefore, units are grouped administratively for ease of movement and control. Commanders normally move at the head of their units.

2. Tactical column: Enforced when ground contact is possible. Units are grouped tactically to permit prompt adoption of combat formations. Movement is usually conducted over roads or trails and by the fastest means available. March units establish local security to the flanks. Dispersion depends on the enemy situation.

3. Approach march: Enforced when ground contact with the enemy is imminent. Tactical considerations govern; therefore, elements whose contact with the enemy is likely adopt suitable combat formations. The commander's main concerns are to quickly bring superior combat power to bear against the enemy and to protect his or her force against surprise. The column establishes guards to the front, flanks, and rear, but larger forces should establish a covering force to ensure unimpeded movement.

(c) *March computations.* Based on the strength, formation, and rate of march, march unit pass time is computed. The pass time of the marching columns, plus necessary time-distance computations, is used to determine the completion time of the march.

(d) *Command and control.* The commander establishes initial control of the march by designating control measures in his or her road movement order. Examples of control measures are

- Start point and release point
- Other critical points along the march route (checkpoints, passage points, and so on)
- Time at which the head or tail of the column is to pass the start point (SP) and critical points
- Rate of march
- Order of march
- Assembly or bivouac areas
- Location of command post
- Communications for use during the march

(e) *Tactical situation.* The march order should also contain a statement of enemy situation, weather, and visibility conditions, and, if applicable

- Road restrictions
- Information obtained from route reconnaissance
- Actions on enemy contact (ground and air)
- Actions at halts and for disabled vehicles
- Actions in the assembly area
- Procedures for resupply, maintenance, and feeding
- Location of leaders
- A communications plan

c. *Time-Distance Terms and Factors.* The planner must understand march terms to develop detailed movement plans. These terms, along with basic factors of distance, rate, and time, are transformed into movement formulas. Then, formulas are applied to known data to obtain information needed to prepare a time schedule. The time schedule is used to regulate departures and arrivals of march elements.

(1) Time-Distance Relationship: Relationships between time and distance are the basis for march planning. The planner must determine how far the column is to travel *(distance)* and how long it will take to make the move *(time)*. He or she must know the space *(length of column)* the column will occupy on the route. The planner must also include in his or her computation the safety factor of distance *(road gap)* or time *(time gap)* that must separate march columns and their elements. Each term used for distance has its corresponding term for time. The length of a column in kilometers has an equivalent pass time in minutes; the road distance in kilometers or miles has a corresponding time-distance as shown in figure 1.

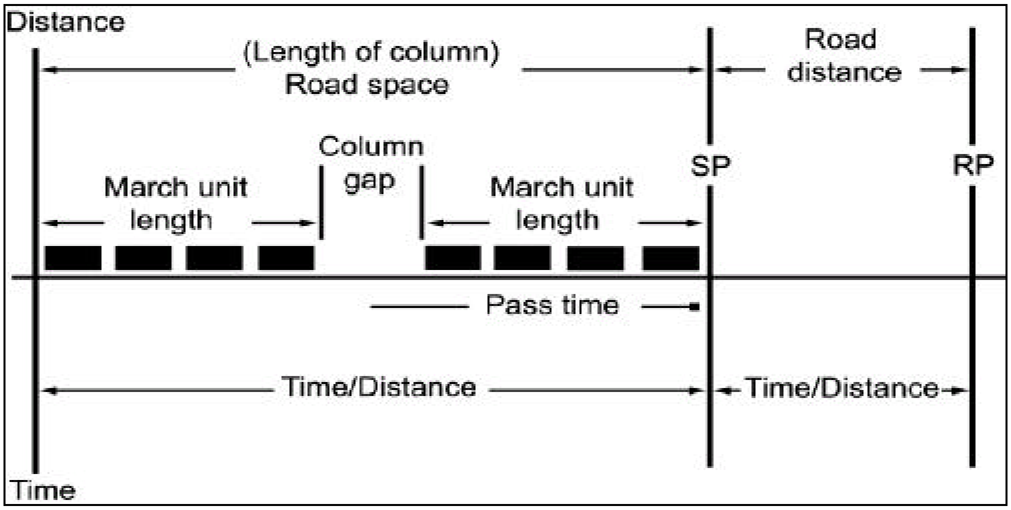


Figure 1

(2) Checkpoint: Those points used for reference in providing instructions, or places where timing might be a critical factor. The route reconnaissance report or a map study should provide the march planner with information to designate checkpoints along the route of march and distances from one checkpoint to another. Once identified, guides and signs are usually sufficient. The commander may want to be present at the passing of some checkpoints. Start points and release points are checkpoints that are always designated.

(3) Start Point: Provide all units of a march column a common point for starting their movement. When units use more than one route, each route has a SP. The SP is a place along the route of march that is easily recognizable on the map and on the ground such as a road intersection. The SP should not be in a defile, on a hill, or at a sharp curve in the road. It should be far enough away from the assembly areas to allow units to be organized and moving at the prescribed speed and interval when the SP is reached. No element of a march column should be required to march to the rear or through another unit in order to reach the SP.

(4) Release Point (RP): Provides all units of the march column a common point for reverting to control of their parent unit. The RP should be on the route of march and easily recognizable on the map and on the ground. Units do not stay at the RP. Guides meet units as they arrive at the RP and lead them to the new areas. Multiple routes and cross-country movement to assembly areas enable units to disperse rapidly. In selecting the RP, units should avoid hills, defiles, and sharp curves. Units should not be required to countermarch or pass through another unit to reach its new position.

d. *Distance Factor—Foot or Motor Marches*. The battalion is normally organized into company-size march units to facilitate control and to maintain unit integrity. The normal march formation is a column of twos. Normal distance is 2 to 5 meters between soldiers (1 to 3 meters at night), 50 meters between platoons (25 meters at night), and 100 meters between companies (50 meters at night).

(1) Vehicle/individual distance: The space between two consecutive vehicles or individuals of an organized element of a column.

(2) Column gap: Space between two organized elements following each other on the same route. It can be calculated in units of length or in units of time as measured from the rear of one element to the front of the following element.

(3) Traffic density: The average number of vehicles that occupy 1 mile or 1 kilometer of road space, expressed in vehicles per mile (vpm) or vehicles per kilometer (vpk).

(4) Length of a column: The length of roadway occupied by a column to include gaps in the column measured from front to rear, inclusive.

(5) Road gap: The distance between two march elements—it is the length aspect of column gap. Since it is more significant when the column is moving than when it is halted, road gap becomes a factor of time rather than distance.

e. *Rate Factors*. Speed indicates actual rate of speed of a vehicle or foot column at a given moment as shown on the speedometer in kph or mph.

(1) Pace is the regulated speed of a column or element that is established by the lead vehicle or an individual in the lead element to maintain the prescribed average speed. For a foot march, the normal pace is 30 inches at a cadence of 106 steps per minute.

(2) The commander considers all of the factors that effect marches and selects a rate that will place his or her unit at its destination in the shortest time and combat-ready condition. The unit standard operation procedures (SOP) usually states the rate for marches on roads and cross-country, over normal terrain, and day or night. The column commander modifies this rate to suit his or her needs, which varies greatly in mountain, jungle, desert, or arctic areas. Rates of march usually prescribed for normal terrain are listed in the table below:

Factor	Roads (kph)	Cross-Country (kph)
Day	4.0	2.4
Limited Visibility	3.2	1.6

f. *Time Factors*. The measurement of time includes the total time needed for the unit to complete the march or to pass a leader point along the designated route. Time is usually measured in minutes or hours.

(1) Arrival time: The head of the column arrives at a designated point or line.

(2) Clearance time: The tail of a column passes a designated point or line.

(3) Completion time: The tail of a column passes the release point.

(4) Pass time (PST): Actual time between the moment the first element passes a given point and the moment the last element passes the same point.

(5) Road clearance time: Total time a column requires to travel over and clear a section of road. Road clearance time equals time distance plus column pass time.

(6) Time distance (TDIS): Time required to move from one point to another at a given rate of march. It normally represents the movement of the head of the column from the start point to the release point.

(7) Time gap: Time measured between rear and front of successive elements as they move past a given point. It is the time aspect of column gap or the conversion of road gap to time. There are no prescribed time gaps. Gaps depend on the size of serials and march units, time available for movement, and tactics required for protection against air and nuclear attack.

g. *March Computations.*

(1) Distance, rate, and time are the factors for movement computations. If two of these factors are known, dividing or multiplying one of the known factors by the other can easily determine the third.

Factor	Computation	Results
Rate	Divide distance by time	R = D/T
Distance	Multiply rate by time	D = RxT
Time	Divide distance by rate	T = D/R

The march planner must determine pass time, time distance, arrival time, and completion time.

(2) Time distance (TDIS): Determined by dividing distance to be traveled by the rate of march. TDIS does not include time for long delays or extended scheduled halts.

TDIS (hours) = Distance (km) = Rate (kph)

NOTE: A time distance table is a valuable source for the march planner. It provides a listing of factors used to calculate time required traveling certain distances at specified speeds, either by vehicle or on foot. Travel rates are expressed in vehicle or foot speeds and corresponding rates of march. Travel factors are derived from rate of march, which includes time for short periodic halts and other minor delays that could occur.

(3) The length of column (LGTHCOLM): Used to determine the pass time (PST) of a column that consists of two parts—the space occupied by the Marine alone (including the distance between Marines) and the sum of distance between the elements of the foot column (column gap). The total length of column is the sum of the two parts.

(a) Foot elements: The length of a column of Marines only is determined by multiplying the number of Marines by the appropriate factor selected from the table below. This does not include distances between units.

EXAMPLE: Troops LGTHCOLM (meters) = Number of Marines x Factor + Column gaps (between units)

Formation	2m/Man	5m/Man
Single file	2.4	5.4
Column of twos	1.2	2.7

(4) Total distance: The total distance (column gap) between units is obtained as follows:

- Determine the number of serial distances (total serials minus one).
- Determine the number of march unit distances (total march units minus one, minus the number of serial distances).
- Multiply the number of distances obtained by the length in meters between respective units.
- Add the results.

EXAMPLE: A battalion foot column is organized into 12 platoon-size march units and 3 company-size serials. Required: total column gap distances when there are 100 meters between serials and 50 meters between march units.

Distance	Formula	Result
Serial	(3-1) x 100	200
March Unit	(12-1-2) x 100	450
Total Column Gap		650

(5) Pass time (PST) for a serial is determined by adding march unit pass times to include time gaps between march units. For foot columns, the PST is determined by applying the following formula:

EXAMPLE: PST (minutes) = LGTHCOLM x Factor (for appropriate rate of march)

- .0150 for 4.0 kph
- .0187 for 3.2 kph
- .0250 for 2.4 kph
- .0375 for 1.6 kph

Determine the pass time of a unit whose length of column is 1,500 meters and is marching at a rate of 4 kph.

PST (minutes) = 1,500 x .0150 (factor for 4.0 kph) = 22.5 minutes

(6) In march planning, the RP is normally designated as the terminal point of movement. Arrival time (AT) at the RP is determined by adding time distance and any long or scheduled halts to the SP time.

EXAMPLE: Determine arrival time for a serial with a SP time of 0800 hours, time distance of 6 hours and 45 minutes, and scheduled halt of 1 hour.

	Hours	Minutes
SP Time	8	00
TDIS	6	45
Scheduled Halt	1	00
Total	15	45

Arrival time is 1,545 hours.

(7) Completion time is calculated by adding pass time to arrival time or by adding to the SP time the time distance, pass time, and any long or scheduled halts (other than normal hourly halts).

EXAMPLE 1: Determine completion time for a serial with an arrival time of 1545 hours and a pass time of 41 minutes.

	Hours	Minutes
AT	15	45
PST		41
		00
Total	15	86

Completion time is 1,626 hours.

NOTE: Convert 86 minutes to 1 hour and 26 minutes, and then add to 1,500 hours.

EXAMPLE 2: Determine completion time for a serial with a start point time of 0800 hours, time distance of 6 hours and 45 minutes, a pass time of 41 minutes, and a scheduled halt of 1 hour.

	Hours	Minutes
SP Time	8	00
TDIS	6	45
PST	0	41
Scheduled Halt	1	00
Total	15	86

Completion time is 1,626 hours.

(8) Based upon previous movements by a unit, data are accumulated to facilitate march planning. Such data include approximate pass time for various elements of the battalion. The S3 can use this data rather than computing them each time a march is scheduled. Such experience tables serve to reduce the time required to complete the computation phase of march planning. Information that is appropriate to the unit SOP should be integrated.

PERFORMANCE STEPS:

1. *Complete a 5-kilometer march.*

- Based on the information and the examples provided in the previous definitions, the completion time for a squad in columns to complete a 5-kilometer march is as follows: with a start point time of 0800 hours, time distance of 1 hours and 37 minutes, a pass time of 2 minutes, and a scheduled halt of 10 minutes.

	Hours	Minutes
SP Time	8	00
TDIS	1	37
PST		2
Scheduled Halt	1	10
Total	9	49

Completion time is 09:49 hours.

2. *Complete a 10-kilometer march.*

- Based on the information and the examples provided in the previous definitions, the completion time for a squad in columns to complete a 10-kilometer march is as follows: with a start point time of 0800 hours, time distance of 2 hours and 76 minutes, a pass time of 2 minutes, and a scheduled halt of 20 minutes.

	Hours	**Minutes**
SP Time	8	00
TDIS	2	76
PST		2
Scheduled Halt	2	20
Total	10	98

Completion time is 10:38 hours.

3. *Complete a 15-kilometer march.*

- Based on the information and the examples provided in the previous definitions, the completion time for a squad in columns to complete a 15-kilomter march is as follows: with a start point time of 0800 hours, time distance of 4 hours and 10 minutes, a pass time of 2 minutes, and a scheduled halt of 30 minutes.

	Hours	**Minutes**
SP Time	8	00
TDIS	4	10
PST		2
Scheduled Halt	3	30
Total	12	42

Completion time is 12:42 hours.

REFERENCE(S):

MCRP 3-02A, *Marine Physical Readiness Training for Combat*
FM 21-18 Chapter 3, *Movement Planning for Foot Marches*

TASK: **MCCS.17.02 (CORE) PREPARE INDIVIDUAL EQUIPMENT**

CONDITION: **GIVEN PRESCRIBED EQUIPMENT AND WEAPON.**

STANDARD: **TO ENSURE INDIVIDUAL EQUIPMENT MEETS MISSION REQUIREMENTS.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given prescribed equipment and weapon.

Standard: The Marine must ensure individual equipment meets mission requirements per the reference.

PERFORMANCE STEPS:

1. *Ensure serviceability of gear.*

a. Ensuring the serviceability of the 782-gear.

(1) Scrub any soiled spots lightly with a brush, or use a white or colorfast cloth.

(2) Dry items in the shade or indoors.

NOTES: Do not dry items in the sun because direct sunlight will discolor them.

Do not dry 782-gear in a mechanical/commercial dryer because this creates excessive wear and may damage the dryer.

b. Maintaining the canteens and canteen cup.

(1) Wash the canteens and canteen cup with warm, soapy water.

(2) Rinse thoroughly.

(3) Keep the canteen cup clean and dry when not using.

(4) Check for holes and rust.

c. Inspect and clean the flak jacket.

(1) Visually inspect the flak jacket. Inspect for

(a) Bunching caused by lumps or distortion in the ballistic nylon filter.

(b) Tears, punctures, or damages to the outer nylon cover.

(c) An increase in weight, which indicates that the nylon filter has become wet.

(d) A damaged or dirty hook-and-pile velcro fastener.

NOTE: Clean the hook-and-pile fastener by washing it with warm, soapy water or by brushing it, as necessary.

(e) Inspect for broken or missing elastic laces.

NOTE: Turn in a damaged jacket as soon as possible to supply.

(2) Clean the flak jacket.

(a) Brush off mud and loose dirt.

(b) Wash the front, back, and the inside of the jacket.

(c) Air dry the jacket.

d. Maintaining the helmet.

(1) Care for the helmet. Do not

(a) Heat water in it.

(b) Hammer with it.

(c) Dig with it.

(2) Clean the suspension, headband, chinstrap, and retention band of the helmet.

(a) Wash the suspension, headband, chinstrap, and retention band.

(b) Air dry the items above.

2. Assemble 782-gear and adjust for fit.

a. Fit and adjust the belt.

(1) Slide the two metal keepers away from the belt buckle and the adjusting clamp as shown in figure 1.

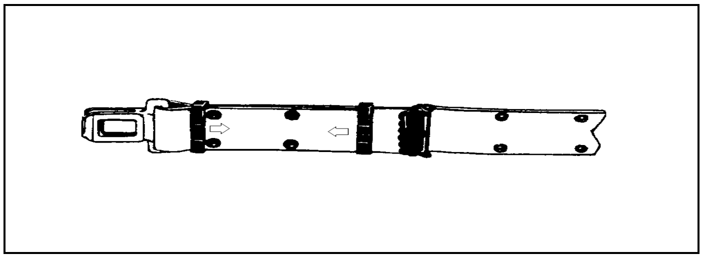


Figure 1

(2) Unlock the adjusting clamp by spreading the looped webbing apart.

(3) Slide the adjusting clamp toward the belt buckle to loosen the belt and away from the belt buckle to tighten it as shown in figure 2.

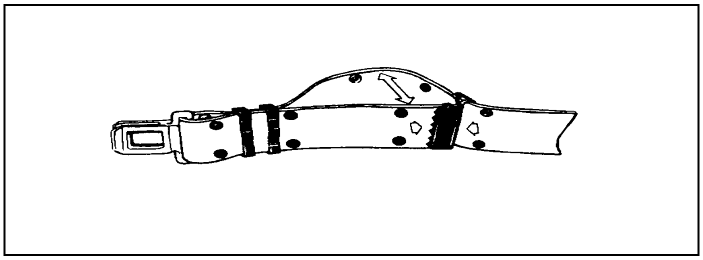


Figure 2

(4) Squeeze the adjusting clamp to lock the cartridge belt in place.

(5) Slide the metal keepers so one is next to the belt buckle and the other is next to the adjustable clamp.

NOTE: Each adjusting clamp should be about the same distance from the belt buckle.

b. Buckle and place the cartridge belt as shown in figure 3.

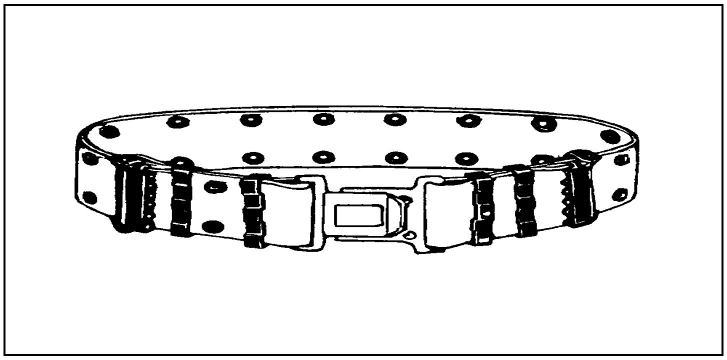


Figure 3

c. Attach the ammunition cases to the belt as shown in figure 4.

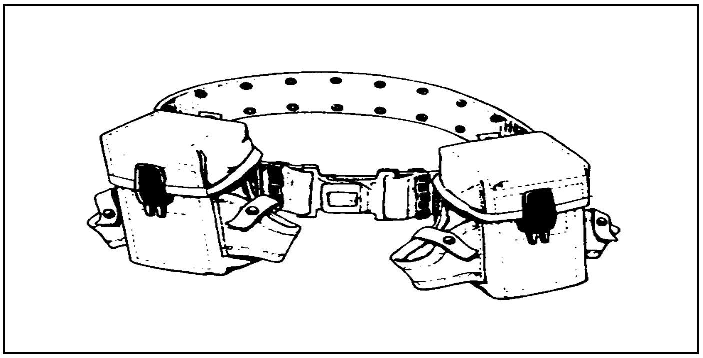


Figure 4

NOTE: One ammunition case is attached to the left side of the belt next to the belt buckle and the other case is attached to the right side of the belt next to the buckle.

(1) Pull each slide keeper attached to the case to an open position, and slide it over one thickness of the webbing as shown in figure 5.

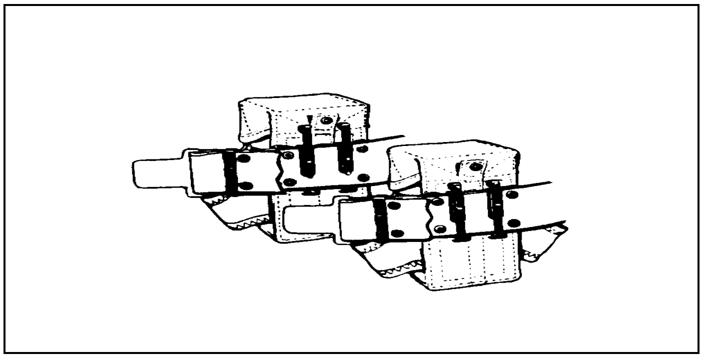


Figure 5

NOTE: Ensure the slide keepers are vertical and the bottom holes are out beyond the webbing.

(2) Push the slide keeper down and into the bottom holes.

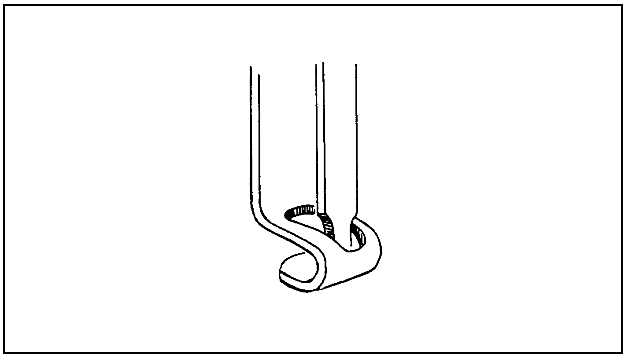


Figure 6

d. Attach the suspenders to the belt and magazine pouches.

(1) Open all suspender-snap hooks by pushing the hooks up and out of the retainers as shown in figure 7.

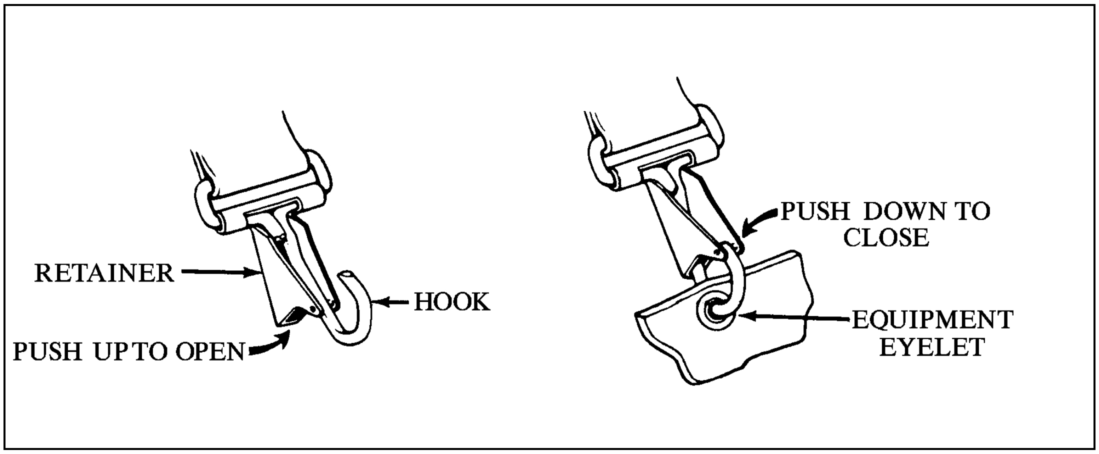


Figure 7

(2) Attach the back suspender-snap hooks into the eyelets at each side of the two, center, top eyelets at the back of equipment belt.

(3) Attach the front, suspender-snap hooks to the top eyelet nearest the buckle on each end of the belt, or fasten the snap hook on the eyelet of each magazine pouch as shown in figure 8.

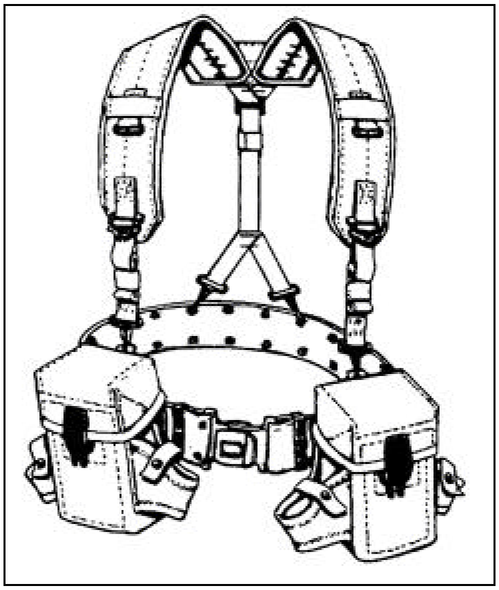


Figure 8

e. Attach the canteen cover.

- Using the two slide keepers on the back of the canteen cover, attach the cover on the right side as close as possible to the ammunition case.

f. Attach the first aid kit.

- Using the slide keeper on the back of pouch, attach the pouch to the center of the back of the belt.

g. Attach the bayonet with scabbard.

- Fasten the double hook on the back of the scabbard into the two eyelets of the individual equipment belt.

h. Adjust the front and back suspender straps.

(1) Put on the belt and fasten the buckle after you have the equipment attached to the belt and suspenders.

(2) Adjust the length of the front and back suspender straps so the belt hangs evenly at your waist and the yoke is positioned comfortably.

(3) Pull down on the loose end of each strap to tighten (to raise the belt), or lift the end of each strap buckle to loosen (to lower the belt).

(4) Secure the loose ends of the straps with the elastic loops.

NOTE: Although you can adjust the back suspender-strap alone, it would be easier using the buddy system.

i. Assemble the components of the helmet.

(1) Adjust the headband.

(a) Open all headband clips.

(b) Make the headband larger than your head size.

(c) Put the headband on your head as you would a hat.

NOTE: Ensure the leather is against your head, that the buckle is at the back, and that all six metal clips are opened and faced down.

(d) Adjust the headband until it fits snugly.

(e) Take the headband off.

(2) Insert the headband into the helmet.

NOTE: Ensure the open clips are toward the rim of the helmet and that the buckle is at the back.

(a) Slip the clips over the fixed web straps centering the two front clips

(b) Close all clips

(c) Put the helmet on your head

NOTE: If helmet is too high, adjust the drawstring tab toward the crown of the helmet. If it sits too low, adjust the drawstring tab toward the rim of the helmet.

(3) Mount the camouflage cover on the helmet as shown in figure 9.

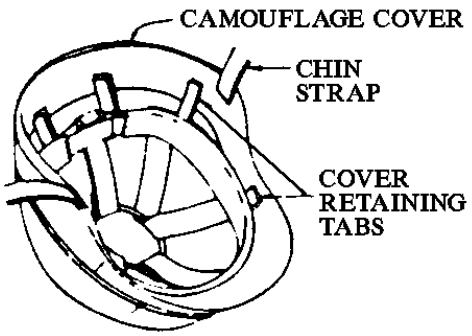


Figure 9

(a) Put the cover over the helmet so the end marked “front” covers the bill of the helmet.

(b) Pull the cover over the back and sides of the helmet, and thread each end of the chin strap through slits on the side of the cover.

(c) Extend the six, cover-retaining tabs down and around the fixed web strap of the suspension system (not the headband); fasten the tab onto itself using the Velcro closures.

(d) Place the elastic helmet band over the helmet and cover.

3. Silence gear.

- To silence 782-gear during combat patrolling, follow the steps below.

  (1) Cover all metal areas with tape.

  (2) Tape up all loose straps.

  (3) Tape anything that could enhance noise.

4. Waterproof gear.

- To waterproof 782-gear, follow the steps below.

  (1) Use trash and zip lock bags to prevent gear from getting wet.

  (2) Use waterproof bag to keep sleeping bag from getting wet.

REFERENCE(S):

FM 21-15, *Care and Use of Individual Clothing and Equipment*

TASK: **MCCS.17.03 (CORE) CAMOUFLAGE SELF AND EQUIPMENT**

CONDITION: **GIVEN PRESCRIBED EQUIPMENT AND WEAPON.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is given a tactical scenario in any combat environment (day and night), individual combat equipment (782 gear) including helmet with camouflage cover and band, Table of Organization weapon, camouflage face paint or substitute, burlap, cloth strips or tape, natural vegetation, and the assistance of another Marine.

Standard: The Marine must paint all of his exposed skin with the appropriate colors and remove all shiny objects such as rings and watches. The Marine must also break up the outline of his helmet, equipment, and web gear so that he blends with his environment.

PERFORMANCE STEPS:

1. *Camouflage exposed skin.*

a. Define camouflage, cover, and concealment.

(1) CAMOUFLAGE: Anything that you can use to keep yourself, your equipment, and your position from looking like what they really are. You can also use both natural and manmade materials for camouflage.

(2) COVER: Anything that gives protection from bullets, fragments of exploding rounds, flame, nuclear effects, and biological and chemical agents. Cover can also conceal you from enemy observation. Cover can be natural or manmade.

(3) CONCEALMENT: Anything that hides you from enemy observation. Concealment does not protect you from enemy fire.

b. Explain the principles of camouflage.

(1) Study the terrain and vegetation of the area in which you will operate.

(2) Pick out and use the camouflage material that best blends with that area as shown in Figure 1.

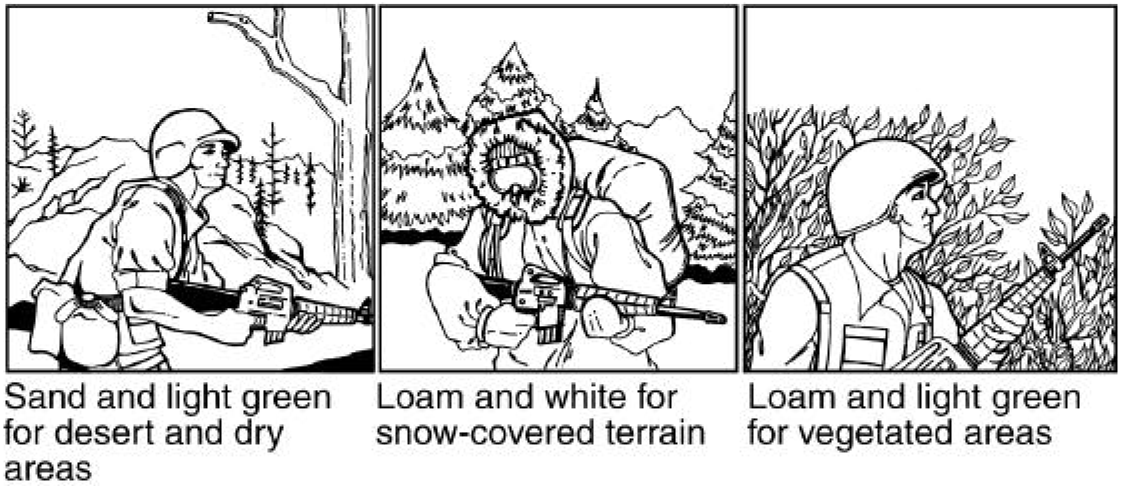

Sand and light green for desert and dry areas
Loam and white for snow-covered terrain
Loam and light green for vegetated areas

Figure 1

(3) Change camouflage when moving from one area to another, as needed, to blend with the surroundings.

(4) Remove all jewelry such as watches, rings, or any other shiny objects.

(5) Dull all shiny areas that cannot be removed.

c. Camouflage exposed skin using color chart and materials listed in Figure 2.

CAMOUFLAGE MATERIAL	**SKIN COLOR**	**SHINE AREAS**	**SHADOW AREAS**
	LIGHT OR DARK	FOREHEAD CHEEKBONES, EARS, NOSE, AND CHIN	AROUND EYES, UNDER NOSE, AND UNDER CHIN
LOAM AND LIGHT GREEN STICK	ALL TROOPS USE IN AREAS WITH GREEN VEGETATION	USE LOAM	USE LIGHT GREEN
SAND AND LIGHT GREEN STICK	ALL TROOPS USE IN AREAS WITH GREEN VEGETATION	USE LIGHT GREEN	USE SAND
LOAM AND WHITE	ALL TROOPS USE ONLY IN SNOW COVERED TERRAIN	USE LOAM	USE WHITE
BURNT CORK, BARK, CHARCOAL, OR LAMP BLACK	ALL TROOPS, IF CAMOUFLAGE STICKS NOT AVAILABLE	USE	DO NOT USE
LIGHT-COLORED MUD	ALL TROOPS, IF CAMOUFLAGE STICKS NOT AVAILABLE	DO NOT USE	USE

Figure 2

NOTE: Work with another Marine when applying camouflage paint to your skin.

(1) Paint shiny areas of the skin such as the forehead, cheekbones, nose, and chin with a dark color.

(2) Paint shadow areas around the eyes, under the nose, and under the chin with a light color.

(3) Use both light and dark colors to paint the exposed skin on the neck, throat, ears, and backs of the hands.

NOTE: Apply a two-color combination of camouflage stick in an irregular pattern. Do not camouflage the palms of the hands if you use hand and arm signals.

2. *Camouflage the helmet.*

a. Insert foliage or cloth strips into the slits in the cover of your helmet.

b. Pull out the back of the cover so it hangs loose.

c. Hang foliage or cloth strips over the rim of the helmet to break up the shadow under the helmet.

d. Figure 3 illustrates a helmet before and after camouflage.

3. *Camouflage individual equipment.*

a. Camouflage your weapon.

  - Use burlap, sandbags, or strips of cloth or tape to cover the weapon and to change its outline.

b. Camouflage your web gear.

  - Change the outline of all web gear on your body with leaves, strips of cloth, or tape.

4. *Maintain camouflage to fit the tactical environment.*

a. Inspect the position from the enemy's side when camouflage is complete.

NOTE: This inspection should be done from about 35 meters forward of the position.

b. Check the camouflage periodically to see that it stays natural looking and conceals the position.

c. Change and improve camouflage when it becomes ineffective.

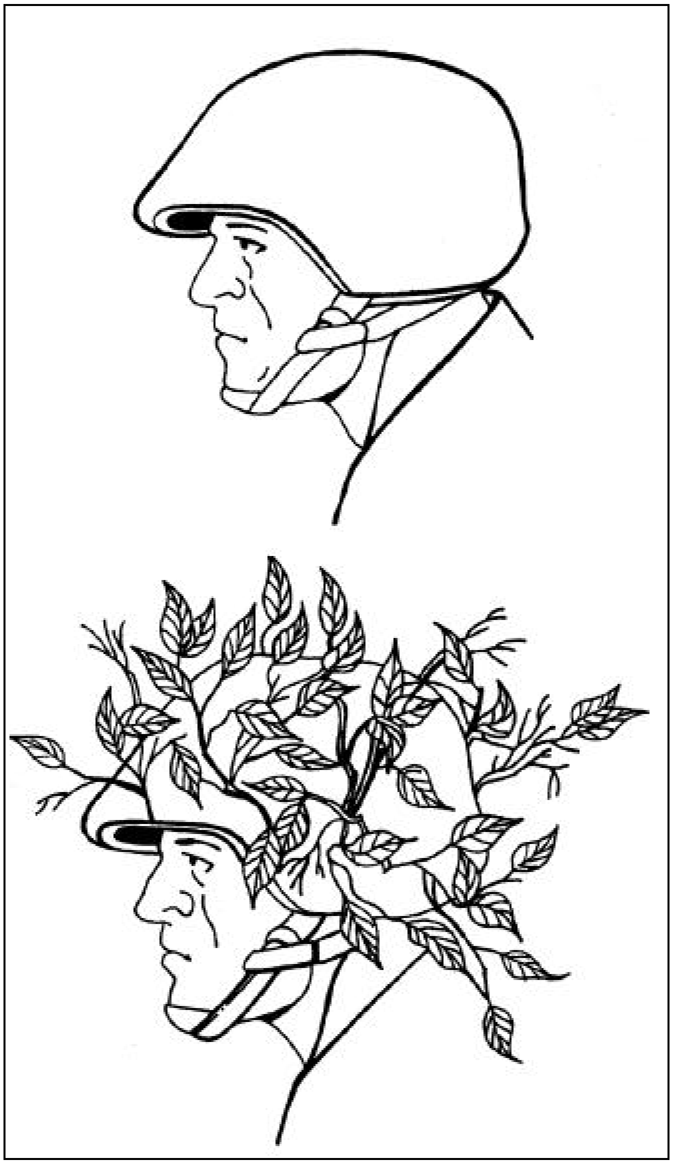


Figure 3

REFERENCE(S):

MCWP 3-11.3, *Scouting and Patrolling*

TASK: **MCCS.17.04 (CORE) CONSTRUCT FIELD SHELTERS**

CONDITION: **GIVEN TWO COMPLETE SHELTER HALFS, A PONCHO, AND WEARING 782-GEAR.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided a training site, a shelter half, guy line, five tent stakes/pins, poncho, string or communications wire, three tent poles, an entrenching tool, and a Marine assistant with the same gear.

Standard: The Marine must erect the shelter and poncho tents so the guy lines are secure, the tent is straight and tight, and a drainage ditch surrounds the tents. The Marine must erect the poncho lean-to so that its back is into the wind.

PERFORMANCE STEPS:

1. *Select site to erect the shelter.*

a. Use camouflage and concealment.

b. Locate site carefully using acronym *BLIS*S: Blend, Low silhouette, Irregular shape, Small, Secluded location.

c. Select a site with the following attributes:

(1) Near signal and recovery sites

(2) Least likely to be searched (drainages, rough terrain, etc.) and blends with the environment

(3) Escape routes *(*Do not corner yourself.)

(4) Observable approaches

(5) Available food and water

(6) Free from poisonous plants, reptiles, and, if possible, insects

d. Avoid natural hazards.

(1) Dead standing trees

(2) Drainage, flash flood areas, and dry river beds

(3) Avalanche areas

e. Locate entrances and exits in brush and along ridges, ditches, and rocks to keep from forming noticeable paths to site.

NOTE: Location should be large enough and level enough to lie down.

2. *Erect a shelter tent.*

a. Spread the two shelter halves on the ground with the sides containing double rows of snaps next to each other.

- Spread both shelter halves with the small side of the snap fasteners facing up.

b. Snap the two halves together using both rows of snaps as shown in figure 1.

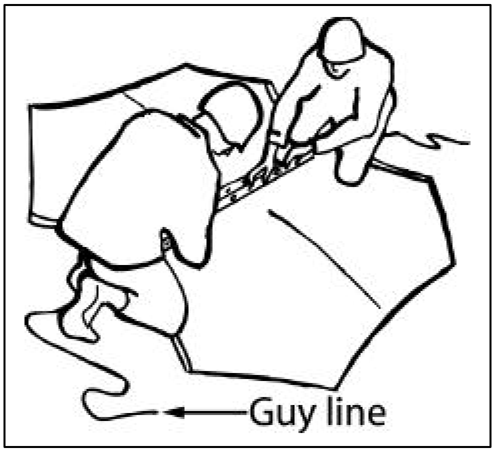


Figure 1

c. Attach the guy lines to the loops of the top shelter half.

d. Raise the front end of the tent as shown in figure 2.

  (1) Place the front tent pole through the grommets in both shelter halves.

  (2) Drive the front guy line pin and attach the guy line.

  (3) Attach the front corner loops to the pins, and temporarily place them in the ground.

  (4) Tighten the front guy line until the pole is straight and the peak of the tent is tight.

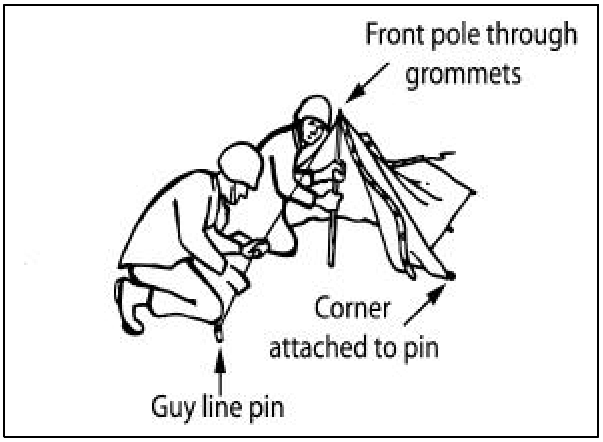


Figure 2

e. Raise the rear of the tent as shown in figure 3.

  (1) Place the rear tent pole through the grommets in both shelter halves.

  (2) Drive the rear guy line pin and attach the guy line.

  (3) Attach the rear corner loops to pins, and temporarily place them in the ground.

(4) Tighten the rear guy line until the pole is straight and the peak of the tent is tight.

NOTE: You may have to reposition the front pole placement on the ground while tightening the guy line.

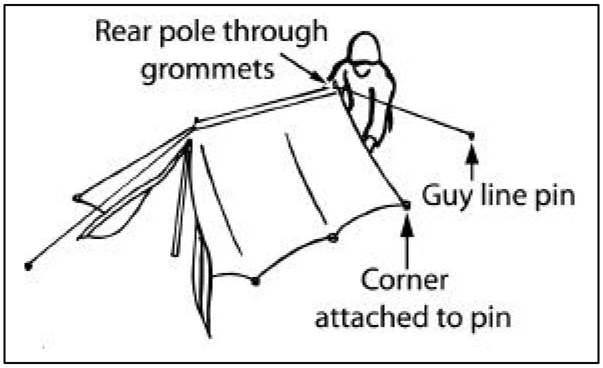


Figure 3

f. Close the end snaps.

g. Attach the end pins to one of the end loops on each end of the tent.

h. Drive the end pins into the ground at a point in line with the peak of the tent as far forward and rearward as possible as shown in figure 4.

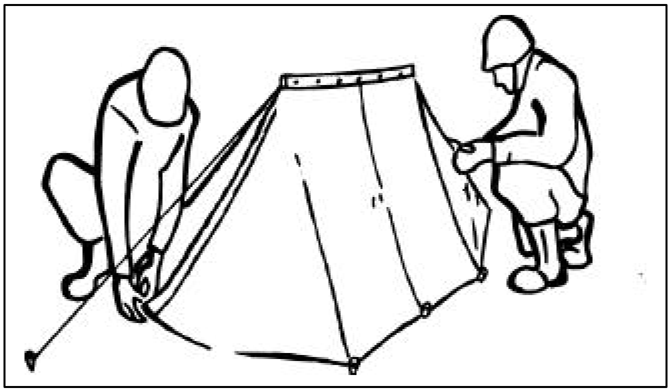


Figure 4

i. Attach the side pins to the side poles and drive the side pins into the ground.

j. Tighten and dress the tent as shown in figure 5.

(1) Reposition the corner and side pins as needed to ensure the tent is straight and tight.

(2) Reposition both poles to ensure they are standing straight up and down while tightening both guy lines.

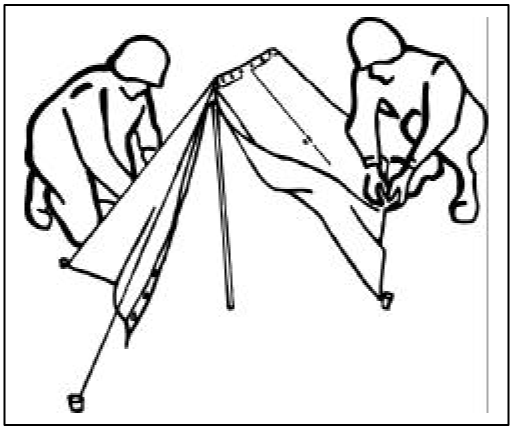


Figure 5

k. Dig a drainage ditch around the perimeter of the tent to ensure the shelter remains dry during rain.

3. *Erect a poncho lean-to shelter.*

NOTE: The materials needed to construct erect a poncho lean-to shelter include a poncho, 2 to 3 meters of rope or parachute suspension line, three stakes about 30 centimeters long, and two trees or two poles 2 to 3 meters apart.

a. Check the wind direction. Ensure the back of your lean-to will be into the wind as shown in figure 6.

b. Tie off the hood of the poncho.

(1) Pull the draw cord tight.

(2) Roll the hood long ways.

(3) Fold the rolled hood into thirds.

(4) Tie it with the draw cord.

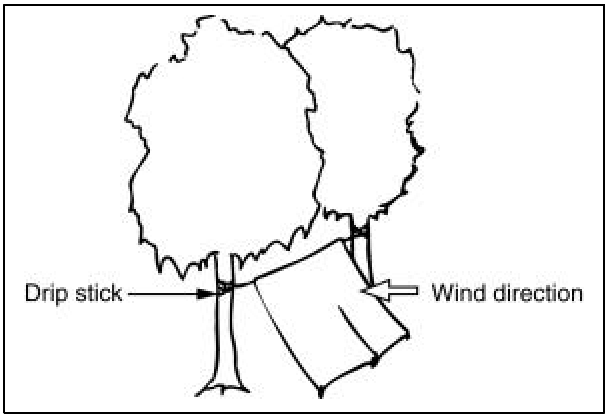


Figure 6

c. Cut the guy line in half.

d. Tie half the line to one corner grommet on one long side of the poncho.

e. Tie the other half of the line to the other corner grommet on the other long side of the poncho.

f. Attach about a 4-inch dripstick to each line 1/4 to 3/4 inch away from the grommet.

g. Tie the lines about waist high on trees or other upright supports.

NOTE: To tie the lines, use a round turn and two half-hitches with a quick-release knot as shown in figure 7.

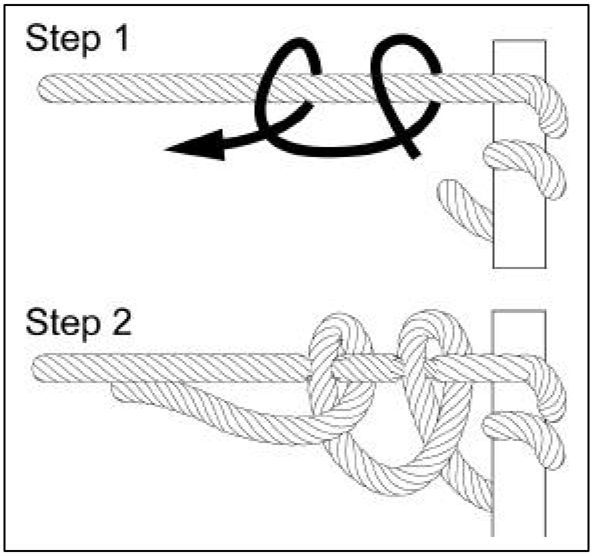


Figure 7

h. Spread the poncho into the wind, and anchor it to the ground.

(1) Drive three sharpened stakes into the ground.

(2) Tie the poncho to the stakes with available material that has been threaded through the grommets.

i. Make a center support for the lean-to, as shown in figure 8, if you plan to use the lean-to for more than one night or if you expect rain.

(1) Stretch a rope between two uprights, poles, or trees that are in line with the center of the poncho.

(2) Tie another rope to the poncho hood, and pull it upward so that it lifts the center of the poncho.

(3) Tie it firmly to the line stretched between the two uprights.

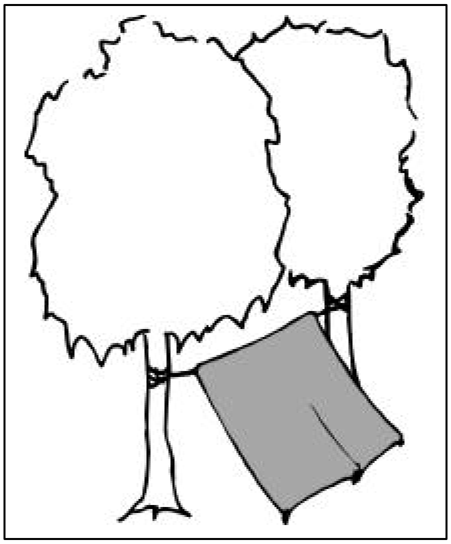


Figure 8

4. Erect a poncho tent.

NOTE: To make this tent, a poncho, two 1.5- to 2.5-meter ropes, six sharpened sticks about 30 centimeters long, and two trees or poles 2 to 3 meters apart are required.

a. Tie off the poncho hood.

b. Tie a 5- to 8-foot line to the center grommet of the poncho.

c. Tie the other ends of these lines about knee-high on two trees that are 7 to 9 feet apart so that the poncho is tightly stretched.

NOTE: Use a round turn, two half hitches, and a quick-release knot.

d. Draw one side of the poncho tight and secure it to the ground with three sharpened stakes.

e. Follow the same procedure on the other side.

NOTE: If you need a center support because of rain, attach one end of a line to the poncho hood and the other end to an overhanging branch so the line is tight as shown in figure 9.

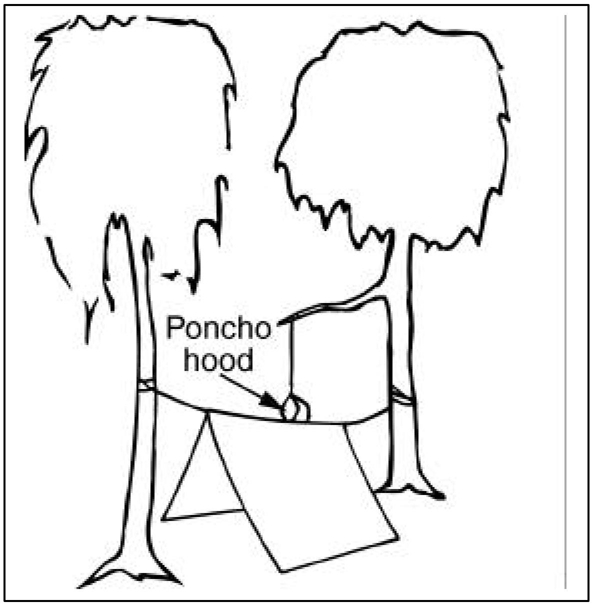


Figure 9

REFERENCE(S):

MCRP 3-02H, *Survival, Evasion, and Recovery*

TASK: **MCCS.17.05 (CORE) PERFORM INDIVIDUAL FIELD HYGIENE**

CONDITION: **GIVEN ESSENTIAL ITEMS.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided an E-tool, an ALICE pack, toiletries, water, and a canteen with cup, purification materials, and necessary field equipment in a secure combat environment.

Standard: The Marine must demonstrate how to maintain personal hygiene. The Marine must purify water and construct a cat hole and straddle trench to dispose of human waste.

GENERAL INFORMATION:

Personal hygiene protects against disease-causing germs that are present in all environments. Practicing personal hygiene prevents spreading of disease-causing germs, promotes health among Marines, and improves morale.

PERFORMANCE STEPS:

1. *Purify water.*

a. Draw water upstream from other activities as shown in Figure 1.

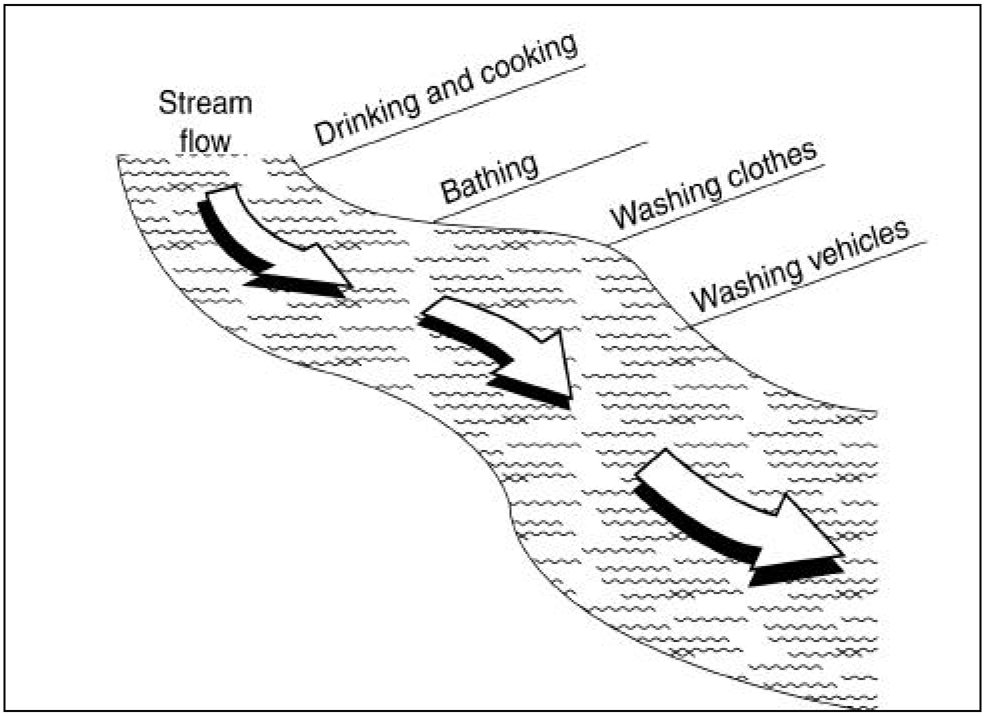


Figure 1

b. Use iodine tables.

(1) Remove the cap from your canteen and fill the canteen with the cleanest water available.

(2) Put one tablet in clean water as shown in Figure 2.

(3) Put two tablets in the canteen of cloudy water.

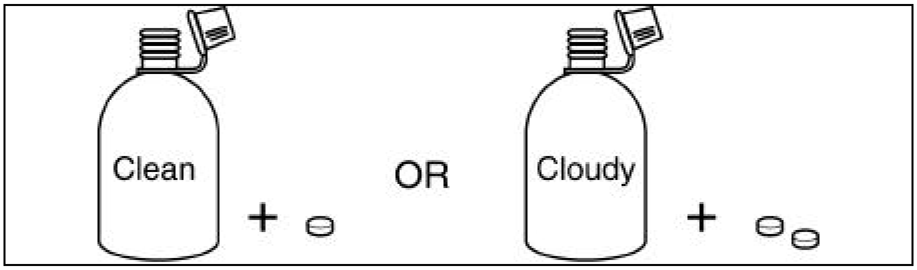


Figure 2

NOTE: Double the amount if you have a 2-quart canteen.

(4) Replace the cap and wait 5 minutes.

(5) Shake the canteen as shown in Figure 3.

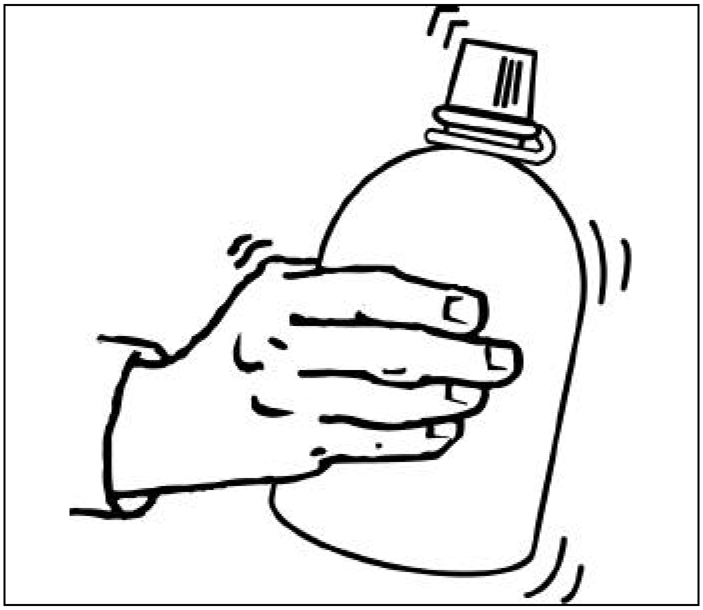


Figure 3

(6) Loosen the cap and tip the canteen over to allow leakage around the canteen threads.

(7) Tighten the cap and wait another 25 minutes before drinking or a total of 30 minutes.

c. Use calcium hypochlorite.

(1) Fill the canteen with the cleanest water available. Leave an airspace of 1 inch or more below the neck of the canteen.

(2) Fill a canteen cup half full of water and add the calcium hypochlorite from one ampule. Stir with a clean stick until the powder is dissolved.

(3) Fill the cap of a plastic canteen half full of the solution in the cup.

(4) Add it to the water in the canteen.

(5) Place the cap on the canteen.

(6) Shake it thoroughly.

(7) Loosen the cap slightly and invert the canteen. Let the treated water leak onto the threads around the neck of canteen.

(8) Tighten the cap on the canteen and wait at least 30 minutes before using the water for drinking or cooking.

d. Boil the water.

NOTES: This method is used when purification compounds are not available. However, it has the following disadvantages:

1. You need fuel to boil the water.
2. Water can take a long time to boil and then cool.
3. Boiled water needs residual protection against recontamination.
4. Water must be held at a rolling boil for at least 15 seconds to make it safe for drinking.

2. Clean skin.

a. Wash your body frequently from head to foot with cloth, soap, and water.

b. Wash armpits, groin area, face, ears, hands, and feet.

3. Clean hair.

WARNING: Do not share combs or shaving equipment with other Marines.

a. Keep your hair clean, neatly combed, and trimmed.

b. Wash your hair and entire scalp with soap and water at least once a week, and make sure that you rinse your hair thoroughly.

c. Shave as often as the water supply and tactical situation permit.

4. Clean hands.

a. Wash your hands with soap and water after any dirty work, after each visit to the bathroom, and before eating.

b. Keep your fingernails closely trimmed and clean.

c. Do not bite your fingernails, pick your nose, or scratch your body.

5. Clean clothing and sleeping gear.

a. Wash or exchange your clothing when they become dirty, if the situation permits.

b. Wash or exchange your sleeping bag when it becomes dirty.

c. Shake your clothing and sleeping gear, and air them regularly in the sun if they cannot be washed or exchanged.

6. Care for mouth and teeth.

a. Clean your mouth and teeth thoroughly and correctly after each meal with a toothbrush and toothpaste.

b. Cut a twig from a tree and fray it on one end to serve as a toothbrush if one is not available as shown in Figure 4.

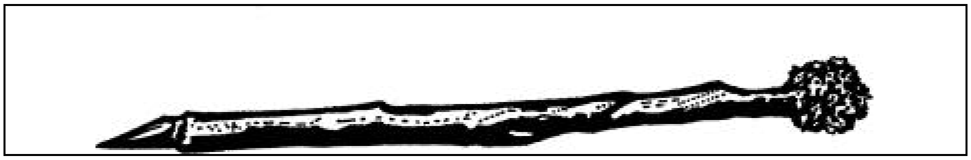


Figure 4

c. Use mouthwash to help kill germs in your mouth, if available.

d. Use dental floss or toothpicks to help remove food between your teeth.

- Use twigs for toothpicks, if necessary.

7. Care for feet.

a. Wash and dry your feet daily.

b. Use foot powder on your feet to help kill germs, reduce friction on the skin, and absorb perspiration.

c. Socks should be changed daily.

d. After crossing a wet area, dry your feet, put on foot powder, and change socks, as soon as the situation permits.

8. Dispose of human waste.

- Choose the field expedient head which best suits the situation. The two types of field expedient heads are the cat-hole and the straddle trench.

  (1) The cat-hole is used when on the march.

    (a) Dig a cat hole approximately 1-foot wide and 1-foot deep as shown in Figure 5.

    (b) Completely cover and pack down with dirt after each use.

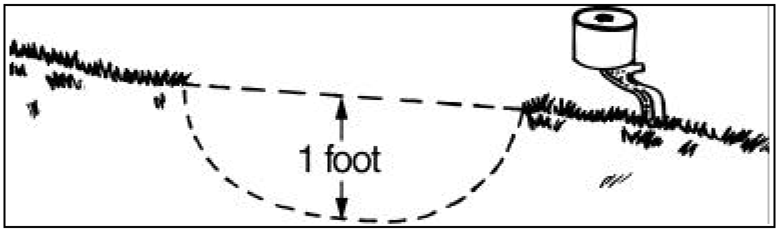


Figure 5

(2) The straddle trench is used for 1- to 3-day bivouac sites.

(a) Dig a straddle trench approximately 4-foot long, 2 1/2 feet deep, and 1-foot wide as shown in Figure 6.

(b) After each use, cover with a shovel of dirt.

(c) Completely cover and pack down with dirt after each bivouac.

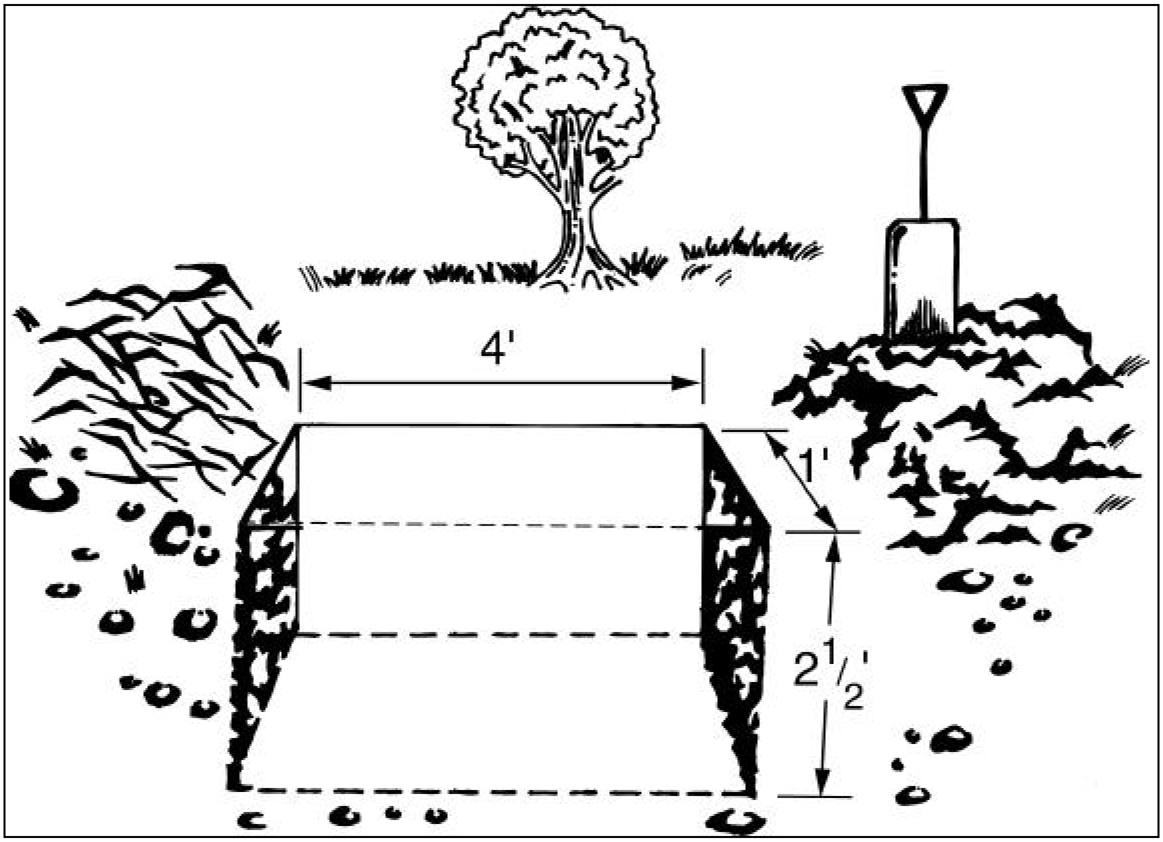


Figure 6

REFERENCE(S):

FM 21-75, *Combat Skills of the Soldier*
MCRP 4-11.1D, *Field Hygiene and Sanitation*

TASK: **MCCS.17.06 (CORE) PERFORM INDIVIDUAL MOVEMENT**

CONDITION: **GIVEN A ROUTE, 782-GEAR, AND ASSIGNED WEAPON.**

STANDARD: **TO ACHIEVE THE PERFORMANCE STEPS PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a route, 782-gear, and assigned weapon.

Standard: Perform the stated crawling techniques, night walk, and creeping techniques per the reference. Perform actions upon exposure to aerial flares and ground flares per the reference.

PERFORMANCE STEPS:

1. *Perform the high crawl technique.*

a. The high crawl is used when

  (1) Cover and/or concealment are available.

  (2) Poor visibility reduces enemy observation.

  (3) Greater speed of movement is required.

b. To perform the high crawl,

  (1) Keep your body off the ground.

  (2) Rest weight on forearms and lower legs.

  (3) Cradle rifle in arms, keeping the muzzle off the ground.

  (4) Keep knees well behind the buttocks to stay low.

  (5) Move forward, alternately advancing right forearm and left knee, then left forearm and right knee.

2. *Perform the low crawl technique.*

a. The low crawl is used when

  (1) Cover and concealment are scarce.

  (2) The enemy has good observation over the area in which the scout is moving.

  (3) Speed is not essential.

b. To perform the low crawl,

  (1) Keep your body as flat as possible against the ground.

  (2) Grasp the rifle sling at the upper sling swivel.

  (3) Let the balance of the rifle rest on the forearm and let the butt of the rifle drag on the ground.

  (4) Keep the muzzle off the ground.

  (5) Start forward by pushing your arms forward and pulling right leg forward.

  (6) Move forward by pulling with arms and pushing with right leg. Change the pushing leg frequently to avoid fatigue.

3. *Perform the back crawl technique.*

- To perform the back crawl,

  (1) Slide head first, on your back.

  (2) Push yourself forward with your shoulders and heels.

  (3) Carry your weapon lengthwise on your body.

4. *Perform the individual rush technique.*

a. When starting from the prone position,

  (1) Raise your head slowly and steadily and select a new position.

  (2) Lower your head slowly, draw arms inward, cock right leg forward, and prepare to rush.

  (3) Use one movement to raise the body by straightening both arms.

  (4) Spring to your feet, stepping off with the left foot.

  (5) Bend forward as low as possible when running.

  (6) Never advance directly to the next position; always zigzag.

b. When hitting the deck,

  (1) Stop.

  (2) Plant both feet in place.

  (3) Drop quickly to the knees and slide the hand to the heel of the rifle.

  (4) Fall forward, breaking your fall with the butt of the rifle. (To confuse the enemy, roll over after hitting the deck and roll into firing position with feet, knees, and stomach flat on the ground.)

  (5) Keep your head down if you do not intend to fire.

c. When rolling over,

  (1) Hit the deck and assume the prone position.

  (2) Bring the rifle in close to the body, placing the rifle butt in the crotch.

  (3) Roll over swiftly to confuse any enemy observers as to your final intended location. Never reappear at the same place you went down.

5. *Perform the night walk technique.*

- When walking at night,

  (1) Place the heel down first. Balance the weight of your body on the rear foot until a secure spot is found.

  (2) Lift the forward foot high to clear any stiff grass, brush, or other obstruction.

  (3) Continue to balance body weight on the rear foot, lower the forward foot gently, toe first, to explore the ground for objects that might make noise.

  (4) Step over fallen logs and branches, not on them.

  (5) Lower the heel of the forward foot slowly, gradually transferring body weight to that foot.

6. *Perform the creeping technique.*

- To perform the creeping technique,

  (1) Creep at night on the hands and knees.

  (2) Use your hands to feel for twigs, leaves, or other substances that might make a noise.

  (3) Clear a spot to place your knee. Keeping your hand at that spot, place your knee in the same spot. Keeping your hand at that spot, place your knee on the ground and repeat the action with the other hand and knee.

7. *Perform actions upon exposure to aerial flares.*

- The table below provides guidance on when to perform actions upon exposure to aerial flares.

IF	THEN
You hear the firing of an aerial flare while moving	Hit the ground behind cover, if possible, while the flare rises and before it bursts and illuminates.
You are caught in the light of an aerial flare while moving where it is easy to blend with the background	Freeze in place until it burns out.
You are caught in the light of an aerial flare while in an open area	Crouch low or lie down immediately.

8. *Perform actions upon exposure to ground flares.*

a. If open or moving when a flare bursts in the air, freeze or drop quickly in the split second after the flare illuminates while the enemy is blinded.

b. Move quickly out of the lighted area.

c. Look for other team members; try to follow or join them to keep the team together.

REFERENCE(S):

MCWP 3-11.3, *Scouting and Patrolling*

TASK: **MCCS.17.07 (CORE) PERFORM INDIVIDUAL MOVEMENT IN AN URBAN ENVIRONMENT**

CONDITION: **GIVEN 782-GEAR, ASSIGNED WEAPON, AND A ROUTE.**

STANDARD: **TO ACHIEVE THE PERFORMANCE STEPS PER THE REFERENCE**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given 782-gear, assigned weapon, and a route.

Standard: The Marine must demonstrate the proper techniques of patrolling in an urban environment per the reference.

PERFORMANCE STEPS:

1. *Cross a wall.*

a. Reconnaissance the wall before crossing.

b. Quickly roll over the wall, keeping a low silhouette as shown in figure 1. The speed of your movement and a low silhouette deny the enemy a good target.

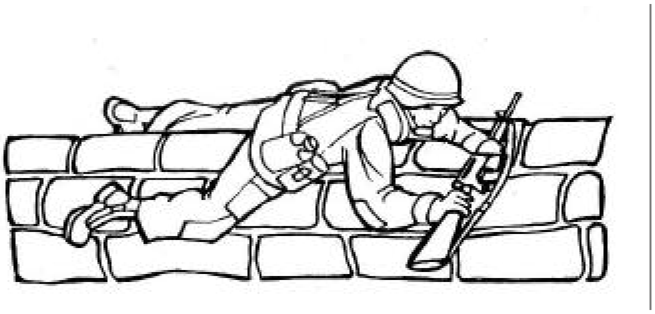


Figure 1

2. *Observe around a corner.*

a. Observe the area around a corner before moving beyond it. The most common mistake made at a corner is allowing the weapon to extend beyond the corner before observing, thereby exposing your position.

b. The two techniques to reduce exposure when crossing a wall are short stock and popping the corner. Both techniques are shown in figure 2.

(1) *Short stock technique*. The shooter should be capable of both right-handed and left-handed firing of his or her weapon using this technique to be effective around corners. Short stocking the weapon will prevent the muzzle from protruding and keep the weapon ready to fire the instant visual contact is made with the enemy. Furthermore, it reduces the Marine’s exposure as a target. A common mistake when firing around corners is firing from the standing position. The shooter exposes him or herself at the height the enemy would expect a target to appear and risks exposing the entire length of the body as a target for the enemy.

(2) *Popping the corner technique.*

(a) Get into a prone position near the corner of a building or obstacle around which to observe. The weapon is short stocked, and the muzzle is pointed in the direction you are looking. This allows you to engage a target, if necessary, when observing around a corner.

(b) Crawl to the corner but don't expose yourself.

(c) Raise your upper body onto your elbows. Then push your body forward with your feet and legs without moving your elbows. Your upper body, with the weapon ready, will move forward.

(d) The final position will expose the weapon, your helmet, and a minimal amount of your face. Your forearms will come to rest on the deck giving you a low profile, the ability to observe around the corner, and the immediate capability to engage targets with your weapon.

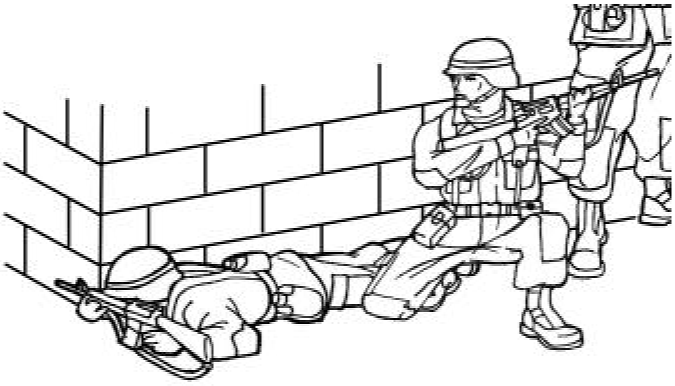


Figure 2

3. *Move past a window.*

a. The most common mistake when passing a window is exposing the head to enemy observation from inside the room. If you show your head, an enemy gunner inside the building could engage you through the window without exposing him or herself to return fires.

b. The correct technique for passing a window is to stay below the window level.

c. Make sure you do not silhouette yourself in the window. Hug the side of the building as shown in figure 3. An enemy gunner inside the building would have to expose him or herself to covering fires to engage you.

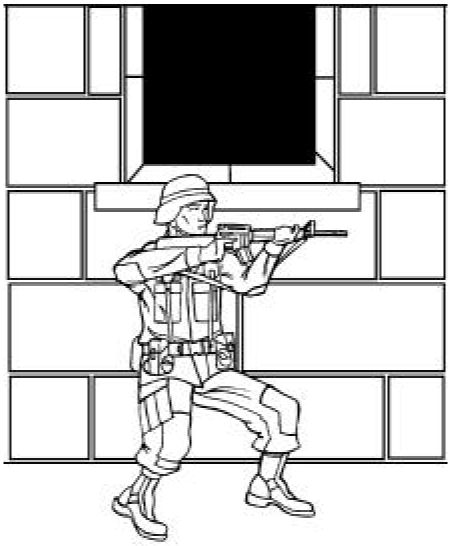


Figure 3

4. *Move past a door.*

a. Doorways should not be used as entrances or exits because they are normally covered by enemy fire.

b. If you must use a doorway as an exit, move quickly through it to your next position, staying as low as possible to avoid silhouetting yourself as shown in figure 4.

c. Prior selection of positions, speed, a low silhouette, and the use of covering fires should be emphasized when exiting doorways.

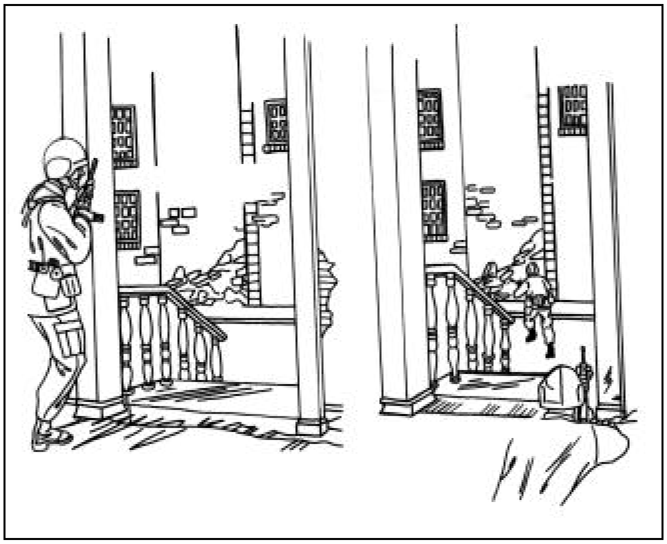


Figure 4

5. *Move parallel to a building.*

a. Marines and small units may not always be able to use the inside of buildings as a route of advance. In such cases, they should move on the outside of the buildings as shown in figure 5.

b. Use smoke, covering fires, and cover and concealment to hide movement.

c. When correctly moving along the outside of a building, hug the side of the building, stay in the shadow, present a low silhouette, and move rapidly to your next position.

d. If an enemy gunner inside the building fires on you, he or she exposes him or herself to fire from other Marine squad/fire team members who are covering you. Furthermore, an enemy gunner farther down the street may have difficulty detecting and engaging fire on you.

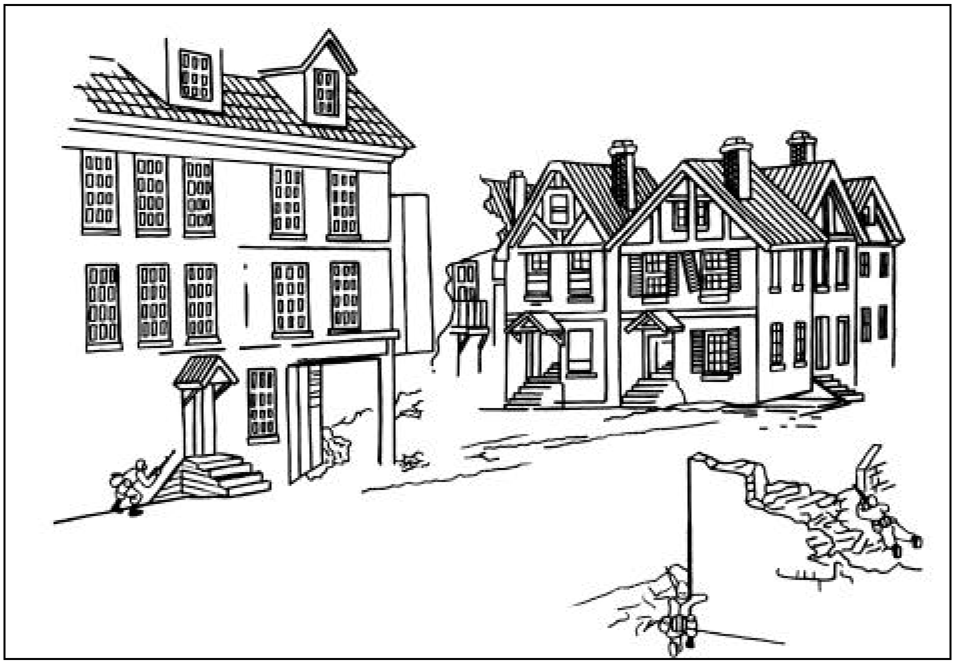


Figure 5

6. Cross a danger area.

a. Open areas such as streets, alleys, and parks should be avoided. They are natural kill zones for enemy crew-served weapons. They can be crossed safely if certain fundamentals are applied by Marines and small-unit leaders.

b. When using the correct procedure for crossing an open area, develop a plan for your own movement. Use smoke from hand grenades or smoke pots to conceal the movement of all Marines. Run the shortest distance between buildings and move along the far building to the next position as shown in figure 6. By doing so, you reduce the amount of time during which you are exposed to enemy fire.

c. Before moving to another position, make a visual reconnaissance and select the position that offers the best cover and concealment. At the same time, select the route that you will take to get to that position.

d. When moving from position to position, be careful not to mask your supporting fires. When you reach your next position, be prepared to cover the movement of other members of your assault force or element.

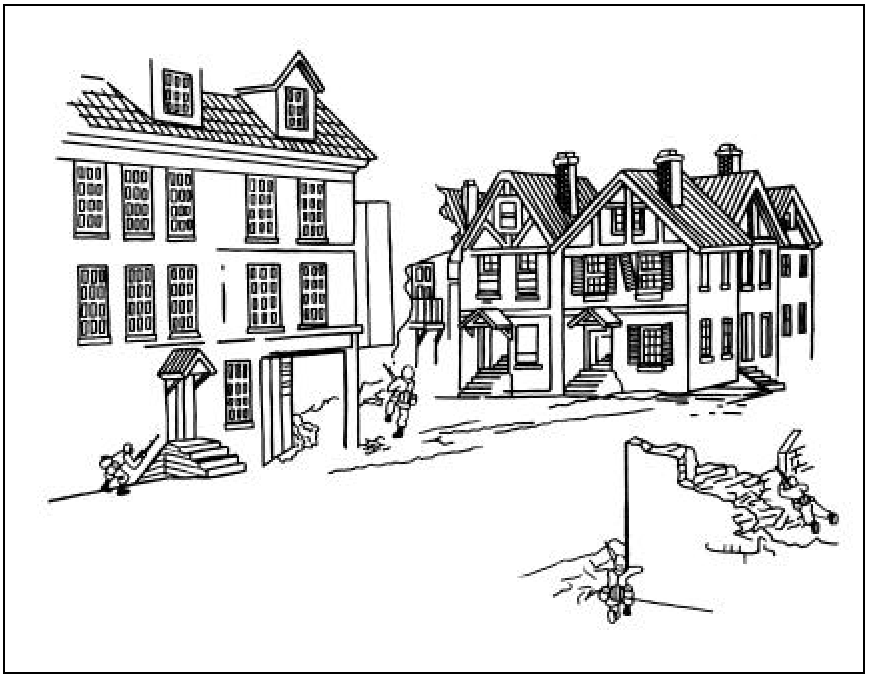


Figure 6

REFERENCE(S):

MCWP 3-35.3 *Military Operations on Urbanized Terrain (MOUT)*

TASK: **MCCS.17.08 (CORE) PERFORM ENEMY PRISONER OF WAR (EPW) HANDLING**

CONDITION: **GIVEN A COMBATANT AND ENEMY WEAPONS, EQUIPMENT, AND DOCUMENTS.**

STANDARD: **TO ACHIEVE THE PERFORMANCE STEPS PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a combatant and enemy weapons, equipment, and documents.

Standard: Describe the terms search, segregate, silence, speed, and safeguard as it pertains to an enemy prisoner of war (EPW). State the information that is included on a captured tag and where each part of the tag is placed when completed.

PERFORMANCE STEPS:

1. *Search*

- Thoroughly search each enemy prisoner of war (EPW) for weapons and intelligence material.

2. *Segregate*

- The purpose for separating EPWs according to rank is to break up the enemy chain of command to decrease their military effectiveness during the early stages of captivity. Once they are confined in an EPW facility, there is less need to segregate different ranks.

  (a) Separate officer EPWs from enlisted EPWs when possible.

  (b) Separate SNCO EPWs from junior enlisted ranks.

3. *Silence*

a. Do not allow EPWs to talk except to answer your questions. Talk among recently captured individuals centers around plans to overpower their captors or to escape. By insisting on silence, you will cut down on their ability to plan an escape.

b. Operational considerations may also dictate that EPWs in your custody remain silent.

c. While gagging a EPW is not necessarily illegal, it should be used only in extreme circumstances.

4. *Speed*

- Captured EPWs should be sent to the rear for interrogation and processing as soon as possible (keeping in mind tactical and security considerations). Make maximum use of available transportation returning to the rear. Speedy removal from familiar surroundings and the EPW's own unit will likely lessen an attempted escape.

5. *Safeguard*

- You have a duty to safeguard

  (1) Everyone in your custody

  (2) Intelligence material found on an EPW

6. *Tag*

a. Complete a captured tag as soon as you capture an EPW. The capture tag should show the following information:

  (1) Name of the EPW

  (2) Rank

  (3) Service number

(4) Date of birth

(5) Date of capture

(6) EPW's unit

(7) Location of capture

(8) Capturing unit

(9) Special circumstances of capture

(10) Description of weapons and documents

b. A capture tag has three parts, each of which includes the 10 items listed above.

(1) Part 1 is attached by string or stapled to the EPW's uniform.

(2) Part 2 is forwarded to the MAGTF holding facility or released to the U.S. Army or U.S. Navy when they take custody of the EPW.

(3) Part 3 is attached to the captured weapons or documents taken from the EPW.

REFERENCE(S):

MCRP 4-11.8C, *Enemy Prisoners of War and Civilian Internees*

TASK: **MCCS.17.09 (CORE) REACT TO INDIRECT FIRE**

CONDITION: **GIVEN SIMULATED INCOMING INDIRECT FIRE.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given simulated incoming indirect fire.

Standard: Identify the warning signs of incoming indirect fire and react to it on foot and in a defensive position.

PERFORMANCE STEPS:

1. *Identify the warning signs of incoming indirect fire.*

a. The sound of incoming shells.

b. A shouted warning of “INCOMING” from someone who hears the shells coming before you do.

c. The sound of shells passing overhead or exploding nearby but not yet zeroed in on your location.

2. *React to incoming indirect fire on foot.*

a. The table below provides guidance on how to react to incoming direct fire on foot.

IF	THEN
You come under indirect fire while moving	Quickly look to your leader for orders. He or she will either tell you to run out of the impact area in a certain direction, or will tell you to follow him or her.
You cannot see your leader, but can see other team members	Follow the team members.
You are alone, or cannot see your leader or the other team members	Run out of the area in a direction away from the incoming fire.

b. Shout or repeat “INCOMING” when you hear any of the warnings.

NOTE: Indirect fire will normally come from artillery, mortars, rockets, or similar weapons.

c. Hit the deck using the best cover available.

d. Wait on your fire team leader’s command or signal to get up.

e. Move very rapidly through the impact area, keeping your body as low as possible.

3. *React to incoming indirect fire in a defensive position.*

a. Shout “INCOMING.”

b. Remain in your position.

c. Take advantage of your available cover as shown in the illustration below.

- Locate a deep fighting hole (fig. 1) for very good protection.

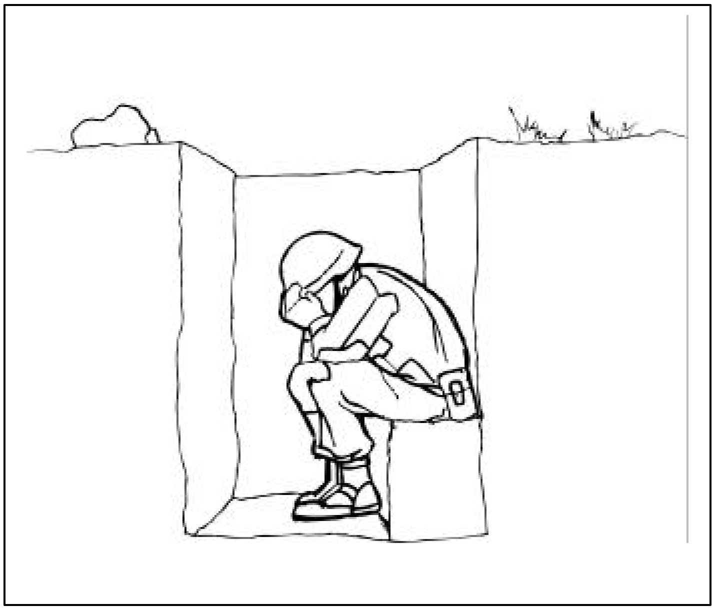


Figure 1

NOTE: Any movement away from your position could let the enemy know exactly where you are. Incoming indirect fire (zeroed in on your position) may indicate a coming attack by ground forces, so be prepared.

REFERENCE(S):

FM 21-75 *Combat Skills of the Soldier*
FMFM 6-5 *Marine Rifle Squad*

AMMUNITION:

DODIC	NOMENCLATURE	INITIAL PROFICENCY	PER ITERATION	ANNUAL SUSTAINMENT
L594	SIMULATOR, PROJ GROUND BURST	0.160 EA	0.160 EA	0.160 EA

TASK: **MCCS.18.01 (CORE) PERFORM COMPASS HANDLING PROCEDURES**

CONDITION: **GIVEN A LENSATIC COMPASS AND A KNOWN LINE OF DIRECTION/AZIMUTH.**

STANDARD: **TO ENSURE CALIBRATION WITHIN THREE DEGREES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

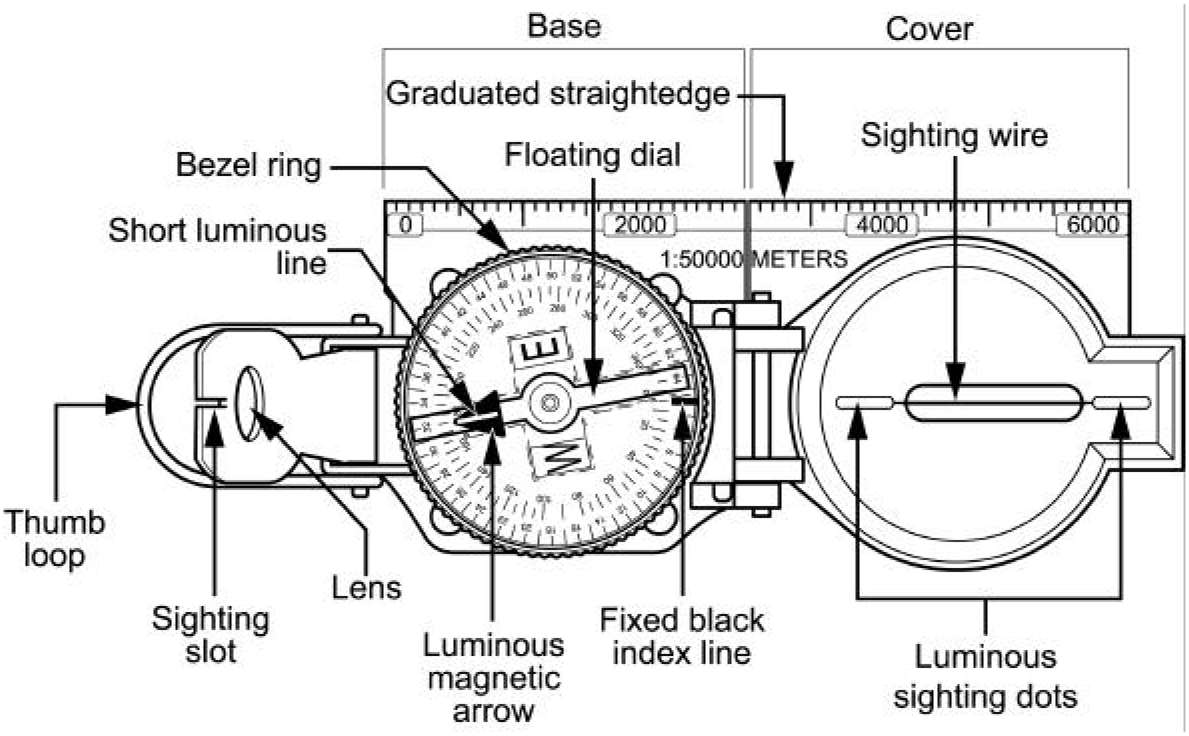
Condition: The Marine is provided a lensatic compass and known line of direction.

Standard: The Marine must inspect the three major parts and measure the accuracy of a lensatic compass.

PERFORMANCE STEPS:

1. *Inspect the three major parts of the lensatic compass.*

a. The three major parts of the lensatic compass are the cover, base, and lens. The diagram below illustrates the lensatic compass.



(1) **Cover**. The compass cover protects the floating dial. It contains the sighting wire (front sight) and two luminous sighting slots or dots used for night navigation.

(2) **Base**. The body of the compass contains the following movable parts: floating dial, bezel ring, and magnetic arrow.

(a) The floating dial is mounted on a pivot so it can rotate freely when the compass is held leveled. Printed on the dial in luminous figures are an arrow and the letters E and W. The luminous magnetic arrow always points to magnetic north and the letters fall at east (E) 90° and west (W) 270° on the dial. There are two scales; the outer scale denotes mils and the inner scale (normally in red) denotes degrees.

(b) Encasing the floating dial is a glass containing a fixed black index line.

(c) The bezel ring is a ratchet device that clicks when turned. It contains 120 clicks when rotated fully. Each click is equal to 3°. The short luminous line that is used in conjunction with the north-seeking arrow during navigation is contained in the glass face of the bezel ring.

(d) The thumb loop is attached to the base of the compass.

(3) **Rear sight or Lens**. The rear sight contains a lens and sighting slot. The lens is used to read the dial. The sighting slot is used in conjunction with the sighting wire for sighting on objects. The rear sight also serves as a lock and clamps the dial when closed for its protection. The rear sight must be opened more than 45° to allow the dial to float freely.

NOTE: When opened, the straightedge on the left side of the compass has a coordinate scale; the scale is 1:50,000 in newer compasses.

WARNING: Some older compasses will have a 1:25,000 scale. This scale can be used with a 1:50,000-scale map, but the values read must be halved. Check the scale.

b. A detailed inspection is required when first obtaining and using a compass. One of the most important parts to check is the floating dial, which contains the magnetic arrow. The user must also make sure the sighting wire is straight, the glass and crystal parts are not broken, the numbers on the dial are readable, and most important, that the dial does not stick.

2. Maintain prescribed separation between the lensatic compass and metal objects and electrical sources.

- Metal objects and electrical sources can affect the performance of a compass. Nonmagnetic metals and alloys do not affect compass readings. The following separation distances are suggested to ensure proper functioning of a compass:

(1)	High-tension power lines	55 meters
(2)	Field gun, truck, or tank	18 meters
(3)	Telegraph or telephone wires and barbed wire	10 meters
(4)	Machinegun	2 meters
(5)	Steel helmet or rifle	1/2 meter

3. Measure the accuracy of the lensatic compass.

- A compass in good working condition is very accurate. However, a compass has to be checked periodically on a known line of direction, such as a surveyed azimuth using a declination station. Do not use compasses with more than 3°+ variation.

4. Protect the lensatic compass.

- If traveling with the compass unfolded, make sure the rear sight is fully folded down onto the bezel ring. This will lock the floating dial and prevent vibration, as well as protect the crystal and rear sight from damage.

REFERENCE(S):

FM 21-26, *Map Reading and Land Navigation*

TASK: **MCCS.18.02 (CORE) PERFORM LAND NAVIGATION USING A COMPASS**

CONDITION: **GIVEN THE REQUIREMENT.**

STANDARD: **TO DEMONSTRATE UNDERSTANDING PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Conditions: Given 782-gear, compass, and an azimuth and distance to designated points.

Standard: To traverse two out of three designated points.

PERFORMANCE STEPS:

1. *Determine daylight or darkness pace counts.*

a. A pace is equal to one natural step, about 30 inches long. To accurately use the pace count method, you must know how many paces it takes you to walk 100 meters. To determine this, you must walk an accurately measured course and count the number of paces you take. A pace course can be as short as 100 meters or as long as 600 meters. The pace course, regardless of length, must be on similar terrain to what you will be walking over. It does no good to walk a course on flat terrain and then try to use that pace count on hilly terrain. To determine your pace count on a 600-meter course, count the paces it takes you to walk the 600 meters, then divide the total paces by 6. The answer will give you the average paces it takes you to walk 100 meters. It is important that each person who navigates while dismounted knows his pace count.

(1) There are many methods to keep track of the distance traveled when using the pace count. Some of these methods include putting a pebble in your pocket every time you have walked 100 meters according to your pace count; tying knots on a string; or putting marks in a notebook. Do not try to remember the count; always use one of these methods or design your own method.

(2) Certain conditions affect your pace count in the field, and you must allow for them by making adjustments.

(a) *Slopes.* Your pace will lengthen on a downslope and shorten on an upgrade. Keeping this in mind, if it normally takes you 120 paces to walk 100 meters, your pace count may increase to 130 or more when walking up a slope.

(b) *Winds.* A head wind shortens the pace and a tail wind increases it.

(c) *Surfaces.* Sand, gravel, mud, snow, and similar surface materials tend to shorten the pace.

(d) *Elements.* Falling snow, rain, or ice causes the pace to be reduced in length.

(e) *Clothing.* Excess clothing and boots with poor traction affect the pace length.

(f) *Visibility*. Poor visibility, such as in fog, rain, or darkness, will shorten your pace.

b. The basic technique used for nighttime land navigation is dead reckoning with several compasses recommended. The point man will be in front of the navigator but just a few steps away for easy control of the azimuth. Smaller steps are taken during night navigation so remember the pace count will be different. It is recommended that a pace count obtained by using a predetermined 100-meter pace course be used at night.

2. *Preset and follow a prescribed azimuth.*

- Although different models of the lensatic compass vary somewhat in the details of their use, the principles are the same.

(1) During daylight hours or with a light source

(a) Hold the compass level in the palm of the hand.

(b) Rotate it until the desired azimuth falls under the fixed black index line (e.g., 320°), maintaining the azimuth as prescribed (figure 1).

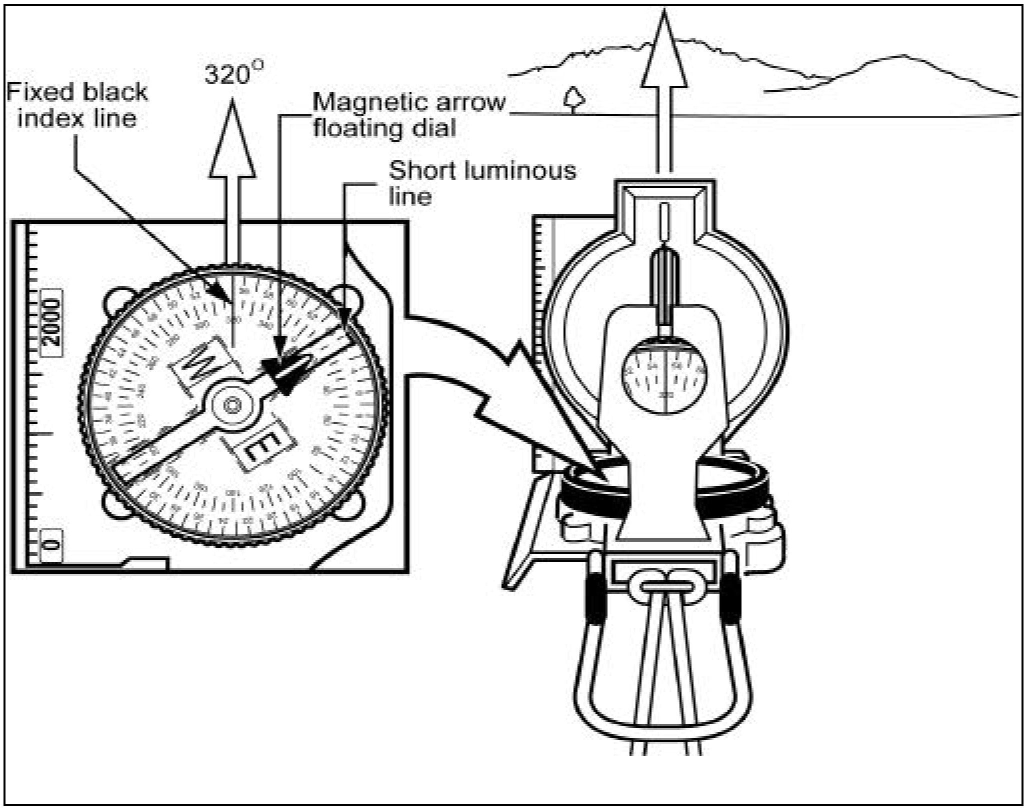


Figure 1

(c) Turn the bezel ring until the luminous line is aligned with the north-seeking arrow. Once the alignment is obtained, the compass is preset.

(d) To follow an azimuth, assume the centerhold technique and turn your body until the north-seeking arrow is aligned with the luminous line. Then proceed forward in the direction of the front cover's sighting wire, which is aligned with the fixed black index line that contains the desired azimuth.

(2) During limited visibility, an azimuth may be set on the compass by the click method. Remember that the bezel ring contains 3° intervals (clicks).

(a) Rotate the bezel ring until the luminous line is over the fixed black index line.

(b) Find the desired azimuth and divide it by three. The result is the number of clicks that you have to rotate the bezel ring.

(c) Count the desired number of clicks. If the desired azimuth is smaller than 180°, the number of clicks on the bezel ring should be counted in a counterclockwise direction. For example, the desired azimuth is 51°. Desired azimuth is 51° ÷ 3 = 17 clicks counterclockwise. If the desired azimuth is larger than 180°, subtract the number of degrees from 360° and divide by 3 to obtain the number of clicks. Count them in a clockwise direction. For example, the desired azimuth is 330°; 360° - 330° = 30 ÷ 3 = 10 clicks clockwise.

(d) With the compass preset as described above, assume a centerhold technique and rotate your body until the north-seeking arrow is aligned with the luminous line on the bezel. Then proceed forward in the direction of the front cover's luminous dots, which are aligned with the fixed black index line containing the azimuth.

(e) When the compass is to be used in darkness, an initial azimuth should be set while light is still available, if possible. With the initial azimuth as a base, any other azimuth that is a multiple of three can be established through the use of the clicking feature of the bezel ring.

NOTES: Sometimes the desired azimuth is not exactly divisible by three, causing an option of rounding up or rounding down. If the azimuth is rounded up, this causes an increase in the value of the azimuth, and the object is found on the left. If the azimuth is rounded down, this causes a decrease in the value of the azimuth, and the object is found on the right.

3. *Bypass an obstacle, as required.*

- To bypass enemy positions or obstacles and still stay oriented, detour around the obstacle by moving at right angles for specified distances.

(1) For example, while moving on an azimuth of 90°, change your azimuth to 180° and travel for 100 meters; change your azimuth to 90° and travel for 150 meters; change your azimuth to 360° and travel for 100 meters; then change your azimuth to 90° and you are back on your original azimuth line (figure 2).

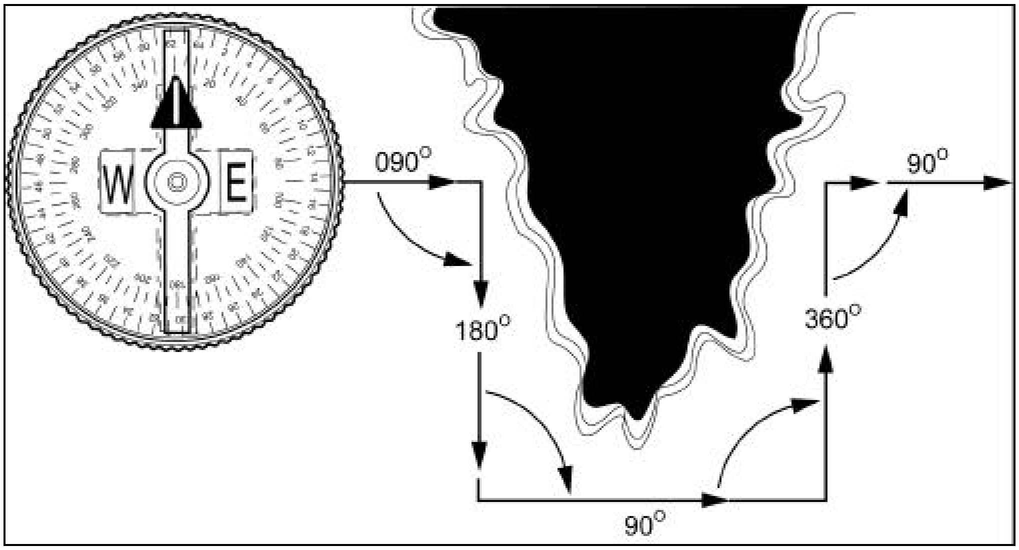


Figure 2

(2) Bypassing an unexpected obstacle at night is a simple matter. To make a 90° turn to the right, hold the compass in the center hold technique; turn until the center of the luminous letter E is under the luminous line (do not move the bezel ring). Make a 90° turn to the left by turning until the center of the luminous letter W is under the luminous line. This does not require changing the compass setting (bezel ring), and it ensures accurate 90° turns.

4. Perform a deliberate offset, as required.

- A deliberate offset is a planned magnetic deviation to the right or left of an azimuth to an objective. Use it when the objective is located along or in the vicinity of a linear feature such as a road or stream. Because of errors in the compass or in map reading, the linear feature may be reached without knowing whether the objective lies to the right or left. A deliberate offset by a known number of degrees in a known direction compensates for possible errors and ensures that upon reaching the linear feature, the user knows whether to go right or left to reach the objective. Ten degrees is an adequate offset for most tactical uses. Each degree offset will move the course about 18 meters to the right or left for each 1,000 meters traveled. For example, in Figure 3, the number of degrees offset is 10. If the distance traveled to "x" is 1,000 meters, then "x" is located about 180 meters to the right of the objective.

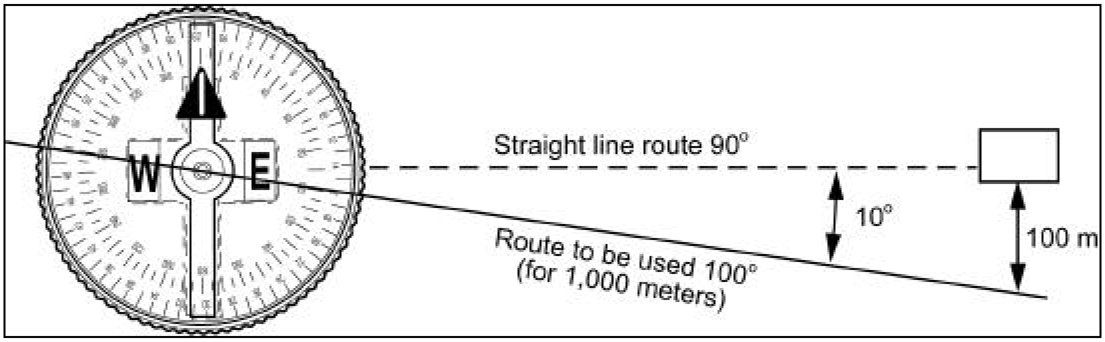


Figure 3

REFERENCE(S):

FM 21-26, *Map Reading and Land Navigation*

TASK: **MCCS.18.03 (CORE) PERFORM BASIC MAP READING**

CONDITIONS: **GIVEN THE REQUIREMENT.**

STANDARDS: **TO DEMONSTRATE UNDERSTANDING PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Conditions: The Marine is provided a 1:50,000 map, a coordinate scale, a protractor, paper, a pen, and six-digit grid coordinates to various natural and manmade features.

Standard: The Marine must correctly identify the six colors of a map and what each color represents; accurately determine the six-digit grid coordinate of a specified point on a map to within +/- 100 meters; accurately plot a six-digit grid coordinate on the map to within +/- 100 meters; correctly identify the following natural features on the map: hill, finger, draw, saddle, ridge, and cliff, correctly measure the straight line distance between two points on the map to within +/- 100 meters (the two points must be at least 4,000 meters apart); and correctly measure the curved line distance between two points on the map to within +/- 200 meters (the two points must be at least 4,000 meters apart and must be along a road or other curved linear feature) per the reference.

Administrative Notes: When identifying a finger, a draw, and a ridge on a map, the Marine must be provided two six-digit grid coordinates, one for each end of the specified feature.

PERFORMANCE STEPS:

1. *Identify the following marginal information found on a topographical map: declination diagram, bar scale, contour interval note, and legend.*

a. Declination diagram. This is located in the lower margin of large scale maps and indicates the angular relationships of true north, grid north, and magnetic north. On maps at 1:250,000 scale, this information is expressed as a note in the lower margin. In recent edition maps, there is a note indicating the conversion of azimuths from grid to magnetic and from magnetic to grid next to the declination diagram as shown in figure 1.

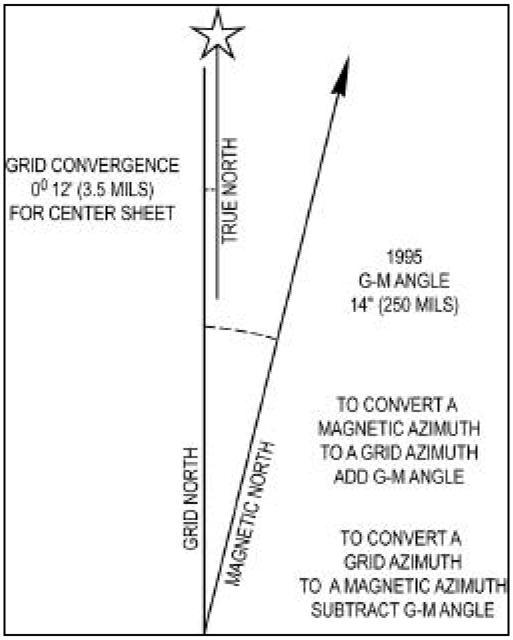


Figure 1

b. Bar scale. These are located in the center of the lower margin. They are rulers used to convert map distance to ground distance as shown in figure 2. Maps have three or more bar scales, each in a different unit of measure. Care should be exercised when using the scales, especially in the selection of the unit of measure that is needed.

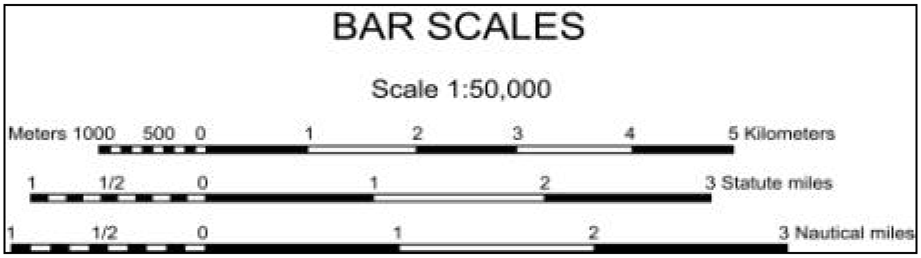

BAR SCALES
Scale 1:50,000
Meters 1000 500 0 1 2 3 4 5 Kilometers
1 1/2 0 1 2 3 Statute miles
1 1/2 0 1 2 3 Nautical miles

Figure 2

c. Contour interval note. This note is found in the center of the lower margin normally below the bar scales. It states the vertical distance between adjacent contour lines of the map. When supplementary contours are used, the interval is indicated. In recent edition maps, the contour interval is given in meters instead of feet.

d. Legend. The legend is located in the lower left margin. It illustrates and identifies the topographic symbols used to depict some of the more prominent features on the map. The symbols are not always the same on every map. Always refer to the legend to avoid errors when reading a map.

2. Identify the three types of contour lines found on a topographical map.

- Contour lines are the most common method of showing relief and elevation on a standard topographic map. A contour line represents an imaginary line on the ground, above or below sea level. All points on the contour line are at the same elevation. The elevation represented by contour lines is the vertical distance above or below sea level. The three types of contour lines used on a standard topographic map are shown in figure 3:

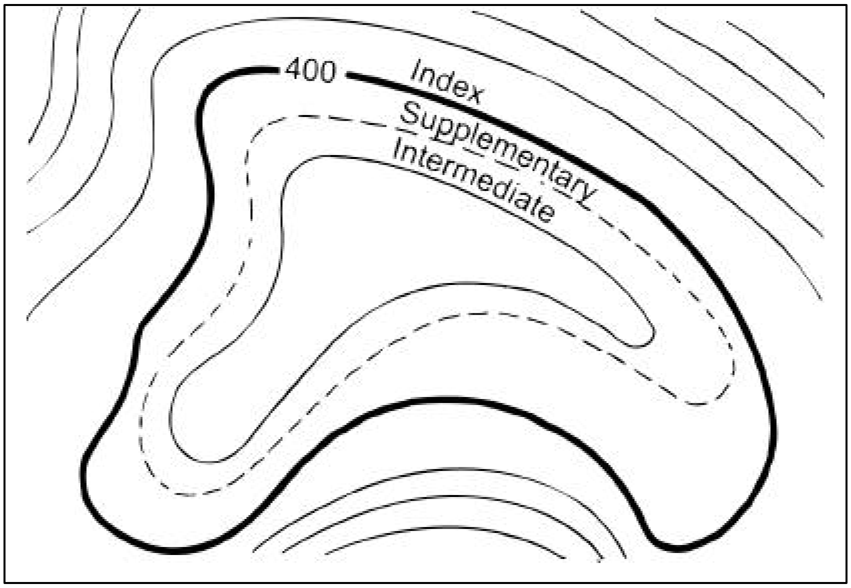


Figure 3

(1) Index. Starting at zero elevation or mean sea level, every fifth contour line is a heavier line. These are known as index contour lines. Normally, each index contour line is numbered at some point. This number is the elevation of that line.

(2) Intermediate. The contour lines falling between the index contour lines are called intermediate contour lines. These lines are finer and do not have their elevations given. There are normally four intermediate contour lines between index contour lines.

(2) Supplementary. These contour lines resemble dashes. They show changes in elevation of at least one-half the contour interval. These lines are normally found where there is very little change in elevation, such as on level terrain.

3. *Identify the 10 terrain features found on a topographical map.*

a. Hill. A hill is an area of high ground. From a hilltop, the ground slopes down in all directions. A hill is shown on a map by contour lines forming concentric circles. The inside of the smallest closed circle is the hilltop as shown in figure 4.

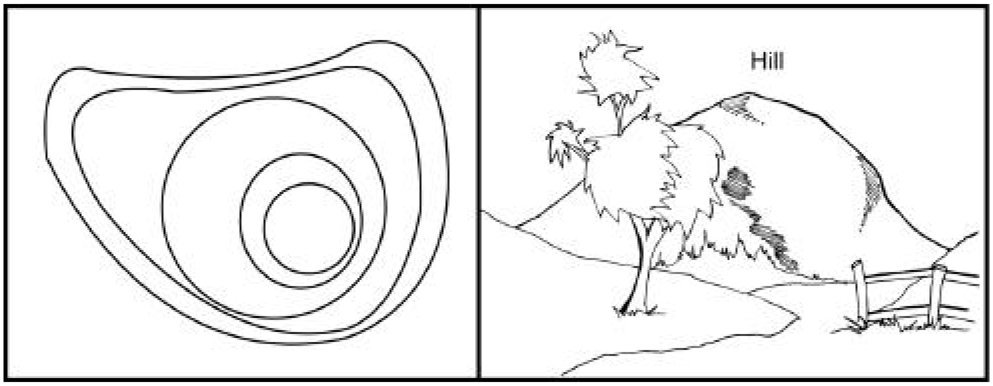


Figure 4

b. Saddle. A saddle is a dip or low point between two areas of higher ground. A saddle is not necessarily the lower ground between two hilltops; it may be simply a dip or break along a level ridge crest. If you are in a saddle, there is high ground in two opposite directions and lower ground in the other two directions. A saddle is normally represented as an hourglass as shown in figure 5.

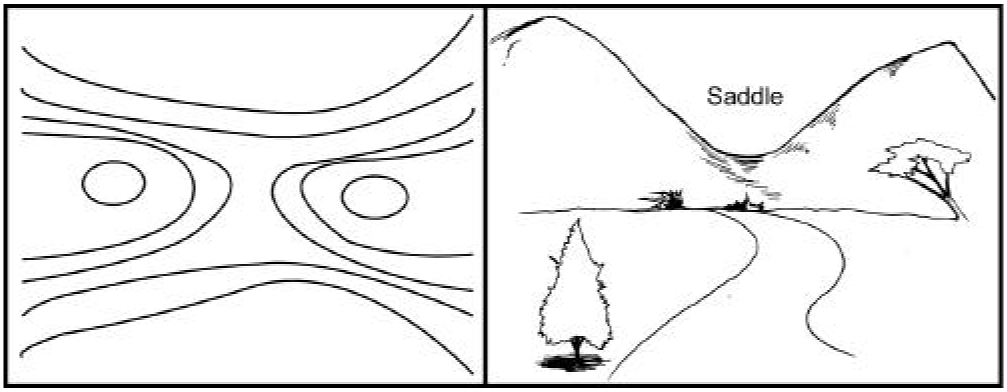


Figure 5

c. Valley. A valley is a stretched out groove in the land, usually formed by streams or rivers. A valley begins with high ground on three sides and usually has a course of running water through it. If standing in a valley, there is high ground in two opposite directions and a gradual inclination in the other two directions. Depending on its size and where a person is standing, it may not be obvious that there is high ground in the third direction, but water flows from higher to lower ground. Contour lines forming a valley are either U-shaped or V-shaped. To determine the direction water is flowing, look at the contour lines. The closed end of the contour line (U or V) always points upstream or toward high ground as shown in figure 6.

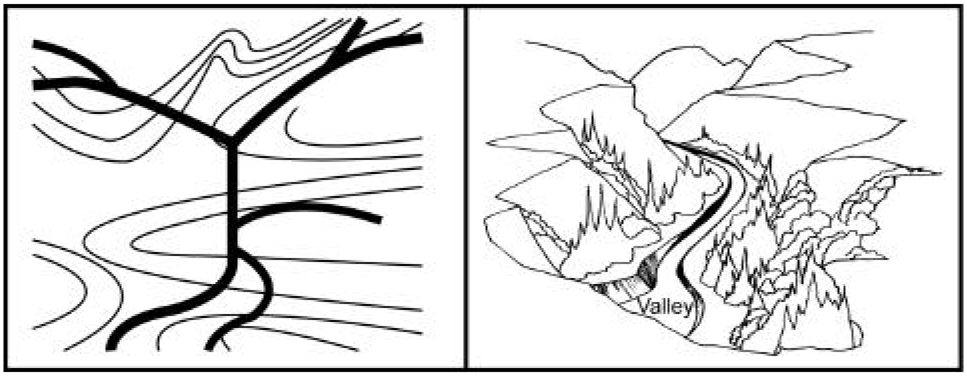


Figure 6

d. Ridge. A ridge is a sloping line of high ground. If you are standing on the centerline of a ridge, you will normally have low ground in three directions and high ground in one direction with varying degrees of slope. If you cross a ridge at right angles, you will climb steeply to the crest and then descend steeply to the base. When you move along the path of the ridge, depending on the geographic location, there may be either an almost unnoticeable slope or a very obvious incline. Contour lines forming a ridge tend to be U-shaped or V-shaped. The closed end of the contour line points away from high ground as shown in figure 7.

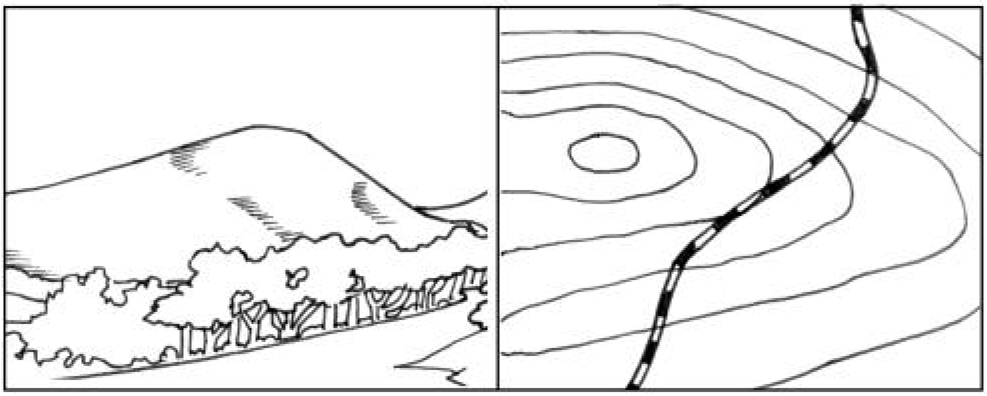


Figure 7

e. Depression. A depression is a low point in the ground or a sinkhole. It could be described as an area of low ground surrounded by higher ground in all directions, or simply a hole in the ground. Usually only depressions that are equal to or greater than the contour interval will be shown. On maps, depressions are represented by closed contour lines that have tick marks pointing toward low ground as shown in figure 8.

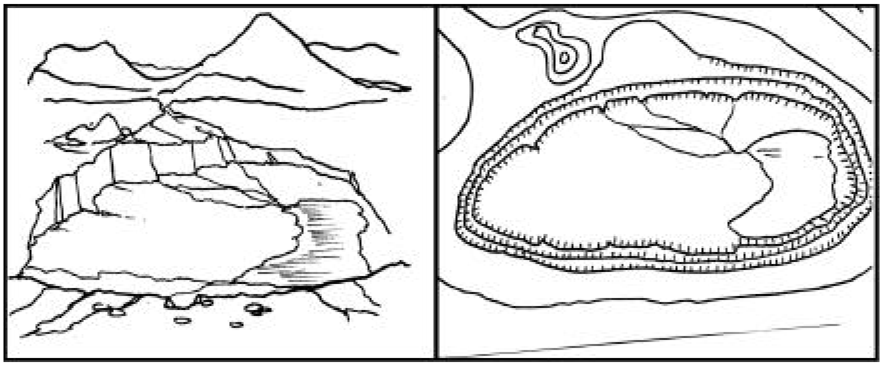


Figure 8

f. Draw. A draw is a less developed stream course than a valley. In a draw, there is essentially no level ground and therefore, little or no maneuver room within its confines. If you are standing in a draw, the ground slopes upward in three directions and downward in the other direction. A draw could be considered as the initial formation of a valley. The contour lines depicting a draw are U-shaped or V-shaped, pointing toward high ground as shown in figure 9.

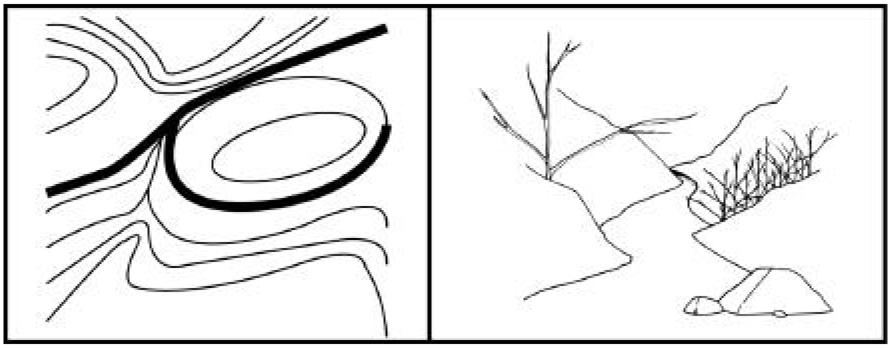


Figure 9

g. Spur. A spur is a short, continuous sloping line of higher ground, normally jutting out from the side of a ridge. Two roughly parallel streams cutting draws down the side of a ridge often form a spur. The ground will slope down in three directions and up in one. Contour lines on a map depict a spur with the U or V pointing away from high ground as shown in figure 10.

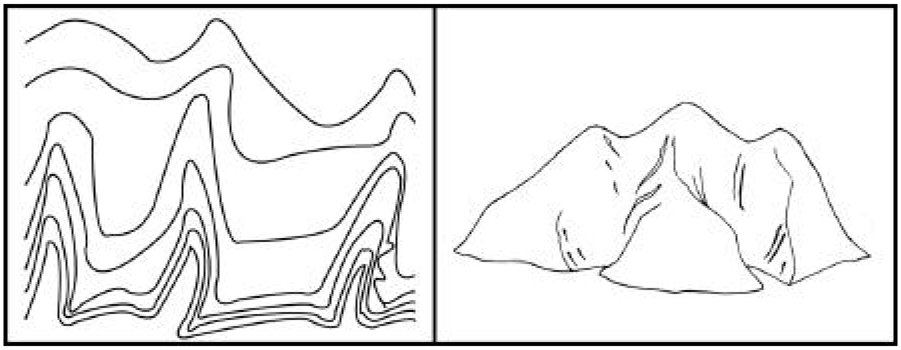


Figure 10

h. Cliff. A cliff is a vertical or near vertical feature; it is an abrupt change of the land. When a slope is so steep the contour lines converge into one "carrying" contour of contours, this last contour line has tick marks pointing toward low ground as shown in figure 11. Cliffs are also shown by contour lines very close together and, in some instances, touching each other as shown in figure 12.

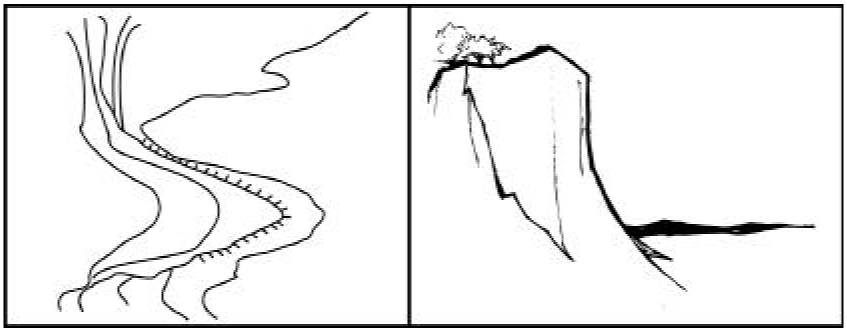


Figure 11

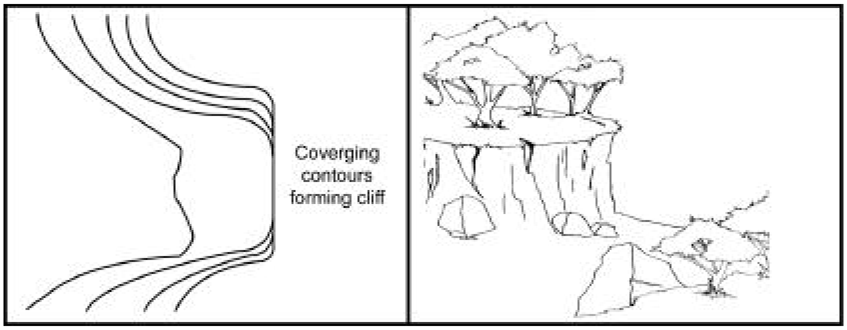


Figure 12

i. Cut. A cut is a manmade feature resulting from cutting through raised ground, usually to form a level bed for a road or railroad track. Cuts are shown on a map when they are at least 10 feet high, and they are drawn with a contour line along the cut line. This contour line extends the length of the cut and has tick marks that extend from the cut line to the roadbed, if the map scale permits this level of detail as shown in figure 13.

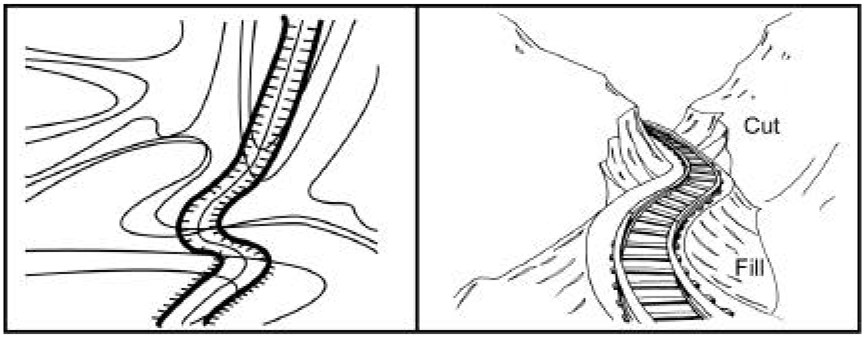


Figure 13

j. Fill. A fill is a manmade feature resulting from filling a low area, usually to form a level bed for a road or railroad track. Fills are shown on a map when they are at least 10 feet high, and they are drawn with a contour line along the fill line. This contour line extends the length of the filled area and has tick marks that point toward lower ground. If the map scale permits, the length of the fill tick marks are drawn to scale and extend from the base line of the fill symbol as shown in figure 13.

4. Identify the features represented by the six colors used on military maps.

a. Black. Indicates cultural (manmade) features such as buildings and roads, surveyed spot elevations, and all labels.

b. Red Brown. The colors red and brown are combined to identify cultural features, all relief features, non-surveyed spot elevations, and elevations such as the contour lines on red-light readable maps.

c. Blue. Identifies hydrograph or water features such as lakes, swamps, rivers, and drainage.

d. Green**.** Identifies vegetation with military significance such as woods, orchards, and vineyards.

e. Brown. Identifies all relief features and elevation such as contours on older edition maps and cultivated land on red-light readable maps.

f. Red. Classifies cultural features such as populated areas, main roads, and boundaries on older maps.

5. Plot a point on a map within 100 meters using grid coordinates.

a. Without a Coordinate Scale. To determine grids without a coordinate scale, the reader simply refers to the north-south grid lines numbered at the bottom margin of any map. Then he or she reads RIGHT to the north-south grid line that precedes the desired point (this first set of two digits is the RIGHT reading). Then by referring to the east-west grid lines numbered at either side of the map, the map reader moves UP to the east-west grid line that precedes the desired point (these two digits are the UP reading). Coordinates 3050, locate the 1,000-meter grid square in which point C is located; the next square to the right would be 3150; the next square up would be 3051; and so forth as shown in figure 14. To locate the point to the nearest 100 meters, use estimation. By mentally dividing the grid square in tenths, estimate the distance from the grid line to the point in the same order (RIGHT and UP). Give complete coordinate RIGHT, then complete coordinate UP. Point C is about two-tenths or 200 meters to the RIGHT into the grid square and about seven-tenths or 700 meters UP. The coordinates to the nearest 100 meters are 302507.

NOTE: Based on the military principle for reading maps (RIGHT and UP), locations on the map can be determined by grid coordinates. The number of digits represents the degree of precision to which a point has been located and measured on a map—the more digits the more precise the measurement.

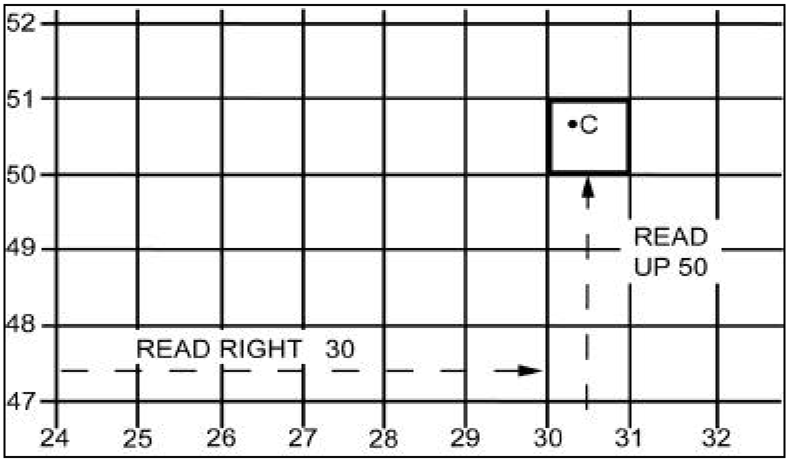


Figure 14

b. Grid coordinate scales. The primary tool for plotting grid coordinates is the grid coordinate scale. The grid coordinate scale divides the grid square more accurately than can be done by estimation and the results are more consistent. When used correctly, it presents less chance for making errors. GTA 5-2-12, 1981 contains four types of coordinate scales as shown in figure 15.

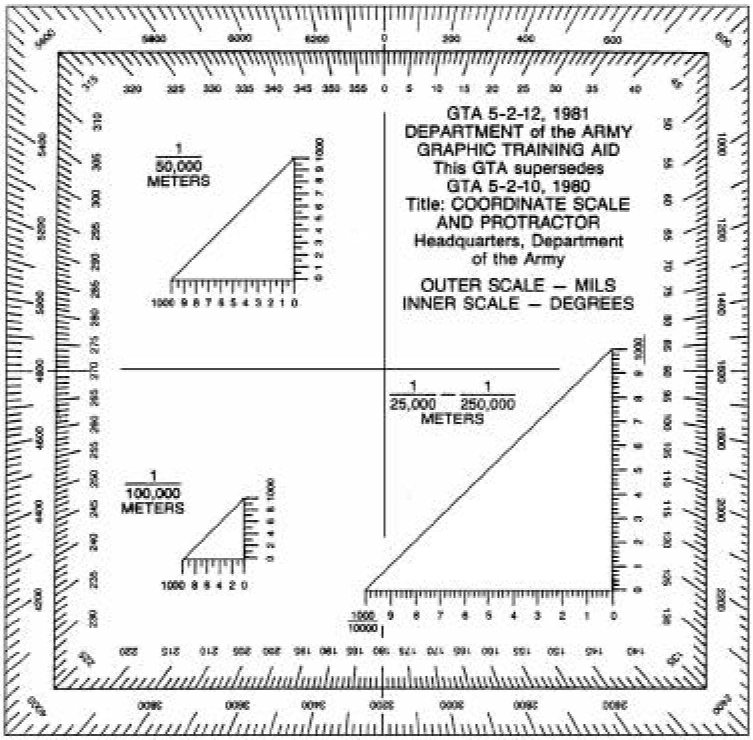


Figure 15

(1) The 1:25,000/1:250,000 (lower right in figure) can be used in two different scale maps, 1:25,000 or 1:250,000. The 1:25,000 scale subdivides the 1,000-meter grid block into 10 major subdivisions, each equal to 100 meters. Each 100-meter block has five graduations, each equal to 20 meters. Points falling between the two graduations can be read accurately by the use of estimation. These values are the fourth and eighth digits of the coordinates. Likewise, the 1:250,000 scale is subdivided in 10 major subdivisions, each equal to 1,000 meters. Each 1,000-meter block has five graduations, each equal to 200 meters. Points falling between two graduations can be read approximately by the use of estimation.

(2) The 1:50,000 scale (upper left in figure) subdivides the 1,000-meter block into 10 major subdivisions, each equal to 100 meters. Each 100-meter block is then divided in half. Points falling between the graduations must be estimated to the nearest 10 meters for the fourth and eighth digits of the coordinates.

(3) The 1:100,000 scale (lower left in figure) subdivides the 1,000-meter grid block into five major subdivisions of 200 meters each. Each 200-meter block is then divided in half at 100-meter intervals.

c. With a Coordinate Scale. To use the coordinate scale for determining grid coordinates, the map user has to make sure the appropriate scale is being used on the corresponding map and the scale is right side up. To ensure the scale is correctly aligned, place it with the zero-zero point at the lower left corner of the grid square as shown in figure 16. Keeping the horizontal line of the scale directly on top of the east-west grid line, slide it to the right until the vertical line of the scale touches the point for which the coordinates are. When reading coordinates, examine the two sides of the coordinate scale to ensure the horizontal line of the scale is aligned with the east-west grid line, and the vertical line of the scale is parallel with the north-south grid line. The scale is used when precision of more than 100 meters is required. To locate the point to the nearest 10 meters, measure the hundredths of a grid square RIGHT and UP from the grid lines to the point.

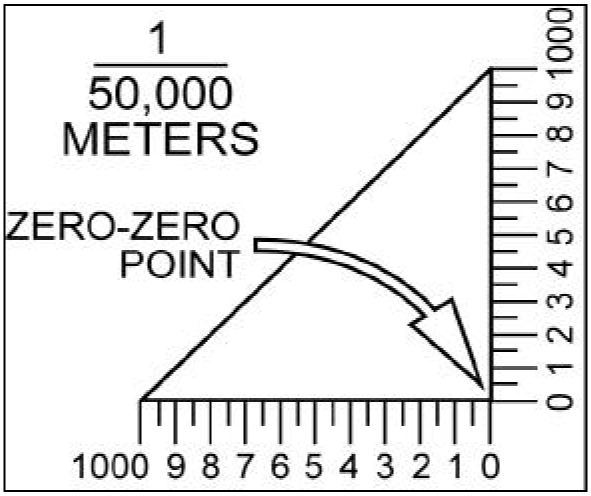


Figure 16

6. Determine the six-digit grid coordinate of a specific point on a map.

a. Determine the four-digit grid coordinate of a specified point on the map.

EXAMPLE: Let's say that you desire to determine the grid coordinates of point C in Figure 1 to the nearest 1,000 meters. First identify the grid square in which it is located. The cardinal rule of map reading is "READ RIGHT, THEN UP." Looking at the numbers at the bottom of the map, read from left to right until you identify the last north-south grid line before arriving at point C. This is grid line 30. Write "30" on a piece of paper. Now look at the numbers on the side of the map and read UP until you identify the last east-west grid line before arriving at point C. This is grid line 50. Write "50" beside the "30." The identity of the grid square is 3050. Note the point where these two grid lines intersect is in the lower left-hand corner of the grid square. In other words, grid squares are identified by the grid lines that intersect in the lower left-hand corner as shown in figure 17.

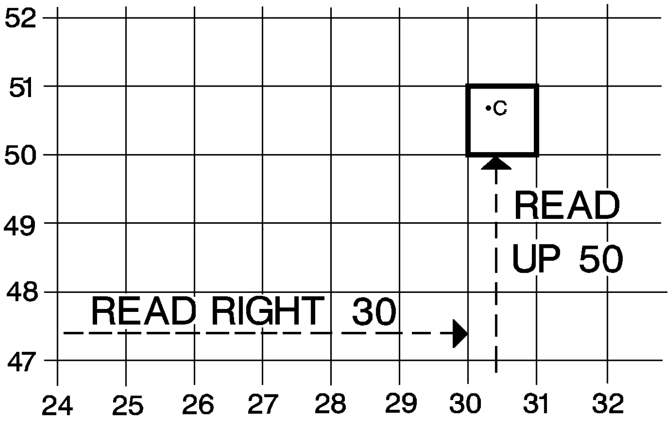


Figure 17

b. Locate points within a grid square.

EXAMPLE: Imagine dividing the grid square into 100 smaller squares. The coordinates of a point in such a grid square have six digits (numbers). Each of the grid squares in figure 18 is 1,000 meters wide and 1,090 meters high. One of the grid squares is divided into 100 smaller squares, each 100 meters wide and 100 meters high. Note the lines within the grid square also read "RIGHT, THEN UP." In a six-digit grid coordinate such as 284936, the first three numbers (284) are the "READ RIGHT" part; whereas the last three numbers (936) are the "THEN UP" part.

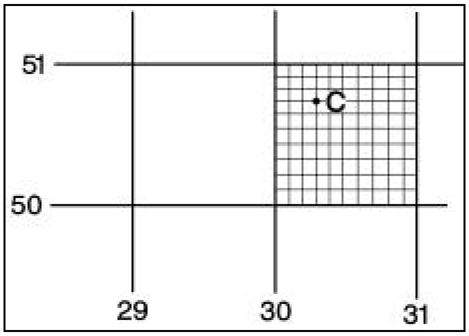


Figure 18

NOTE: The standard GTA 5-2-12 1981 protractor has three coordinate scales, one for 1:50,000 maps, one for 1:100,000 maps, and one for either 1:25,000 or 1:250,000 maps. Use the scale that fits your map. In this case, it should be the 1:50,000 scale that is in the upper left-hand corner of the protractor.

c. Locate point C in grid square 3050, using the coordinate scale on your protractor and the following procedures:

(1) Place the proper coordinate scale of your protractor on the map so the zero-zero point is to the BOTTOM RIGHT of the scale as shown in figure 19.

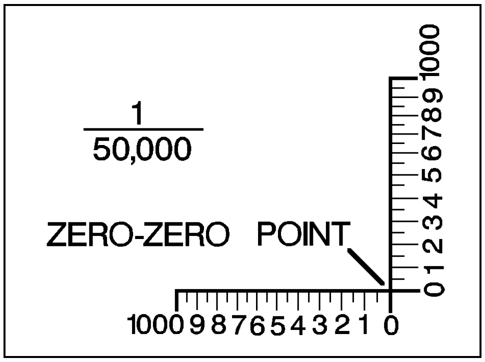


Figure 19

(2) Place the zero-zero point at the lower left-hand corner of grid square 3050 as shown in figure 20.

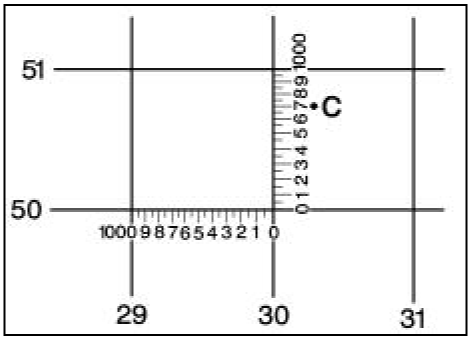


Figure 20

(3) Keep the horizontal line of the scale directly on top of the east-west grid line (in this case, grid line 50) and slide it to the right until the vertical line of the scale touches the point C for which the coordinates are desired as shown in figure 21.

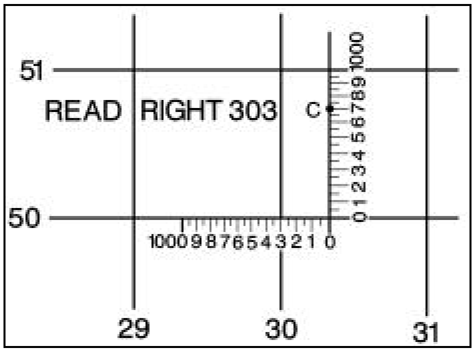


Figure 21

(4) Examine the two sides of the coordinate scale to ensure the horizontal line of the scale is aligned with the east-west grid line and the vertical line of the scale is parallel with the north-south grid line.

(5) Determine your RIGHT reading by first reading the value of the grid line to the left of point C (30). Add to this value the number which tells how far (in hundreds of meters) point C is into the grid square. In this case, it is 300 meters as shown in figure 21. You now have the complete RIGHT reading (303).

(6) Next, determine your UP reading by first reading the value of the horizontal grid line below point C (50). Add to this value the number which tells how far up (in hundreds of meters) point C is into the grid square. In the case, it is 700 meters. You now have the complete UP reading of 507 as shown in figure 22. When determining both your RIGHT and UP reading, round your value to the closest number on your coordinate scale.

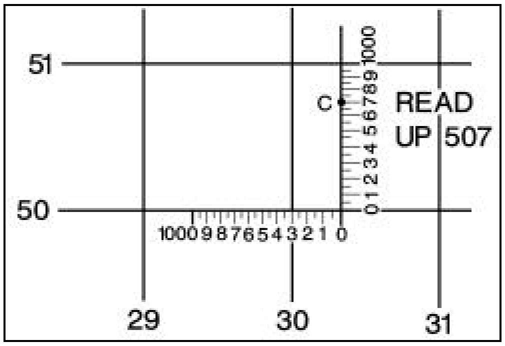


Figure 22

(7) By combining the RIGHT reading (303) with the UP reading (507), you have accurately determined the six-digit grid coordinate of point C (303507).

NOTE: When a Marine becomes proficient at land navigation, he or she can accurately determine six-digit grid coordinates by estimation without the use of a coordinate scale.

7. *Determine the straight-line distance between two points on a map.*

- To determine straight-line distance between two points on a map, lay a straight-edged piece of paper on the map so the edge of the paper touches both points and extends past them. Make a tick mark on the edge of the paper at each point as shown in figure 23.

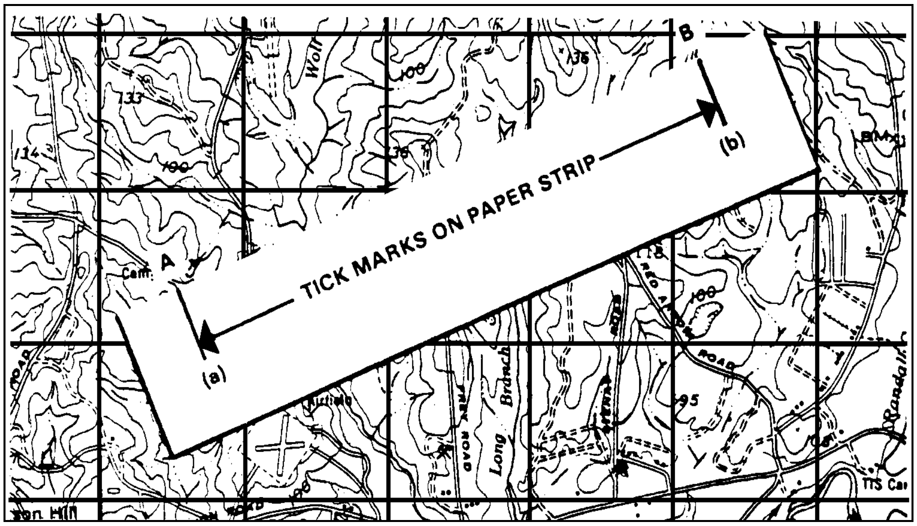


Figure 23

8. *Determine the curved-line distance between two points on a map.*

a. To measure distance along a winding road, stream, or other curved line, the straightedge of a piece of paper is used. In order to avoid confusion concerning the point to begin measuring from and the ending point, an eight-digit coordinate should be given for both the starting and ending points. Place a tick mark on the paper and map at the beginning point from which the curved line is to be measured. Align the edge of the paper along a straight portion and make a tick mark on both map and paper when the edge of the paper leaves the straight portion of the line being measured as shown in figure 24.

b. Keeping both tick marks together (on paper and map), place the point of the pencil close to the edge of the paper on the tick mark to hold it in place and pivot the paper until another straight portion of the curved line is aligned with the edge of the paper. Continue in this manner until the measurement is completed.

c. When you have completed measuring the distance, move the paper to the graphic scale to determine the ground distance. The only tick marks you will be measuring the distance between are tick marks (a) and (b). The tick marks in between are not used as shown in figure 24.

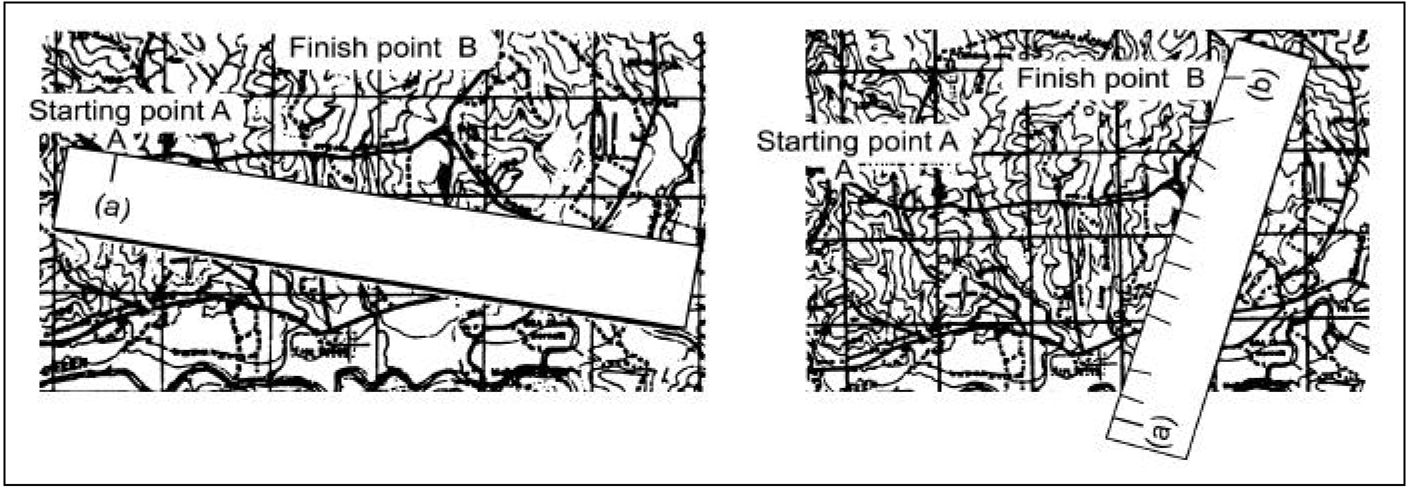


Figure 24

9. Determine a back azimuth.

a. An azimuth is defined as a horizontal angle measured clockwise from a north base line. This north base line could be true north, magnetic north, or grid north. The azimuth is the most common military method to express direction. When using an azimuth, the point from which the azimuth originates is the center of an imaginary circle as shown in figure 25. This circle is divided into 360° or 6400 mils.

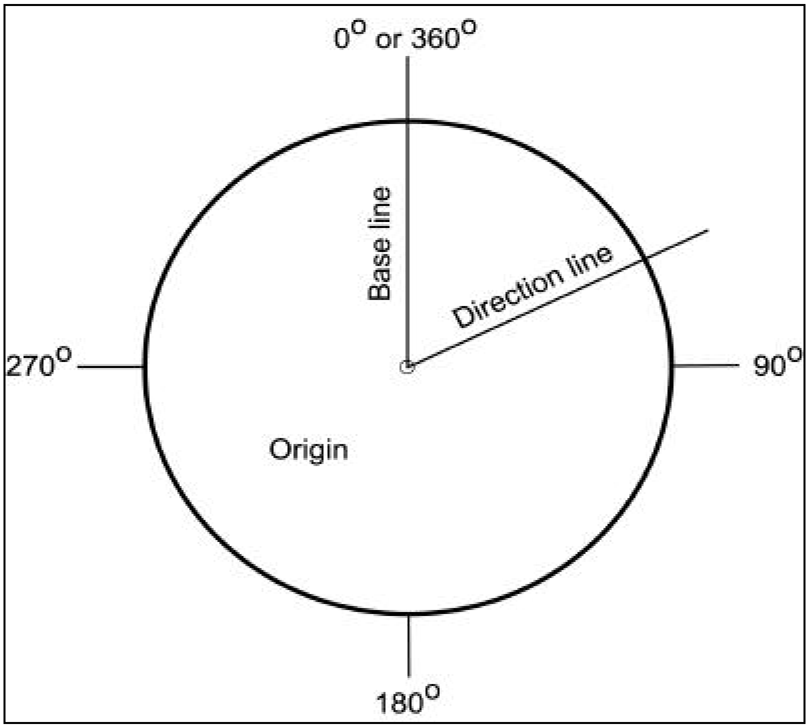


Figure 25

b. Back Azimuth. A back azimuth is the opposite direction of an azimuth. It is comparable to doing an "about face." To obtain a back azimuth from an azimuth, add 180° if the azimuth is 180° or less; or subtract 180° if the azimuth is 180° or more as shown in figure 26. The back azimuth of 180° may be stated as 0° or 360°. For mils, if the azimuth is less than 3200 mils, add 3200 mils; if the azimuth is more than 3200 mils, subtract 3200 mils.

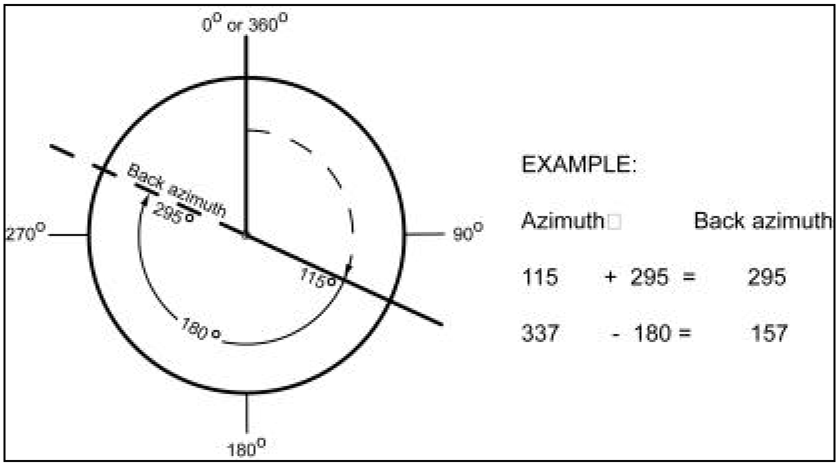


Figure 26

10. Determine a grid azimuth between two points on a map.

- When an azimuth is plotted on a map between point A (starting point) and point B (ending point), the points are joined together by a straight line. A protractor is used to measure the angle between grid north and the drawn line, and this measured azimuth is the grid azimuth as shown in figure 27.

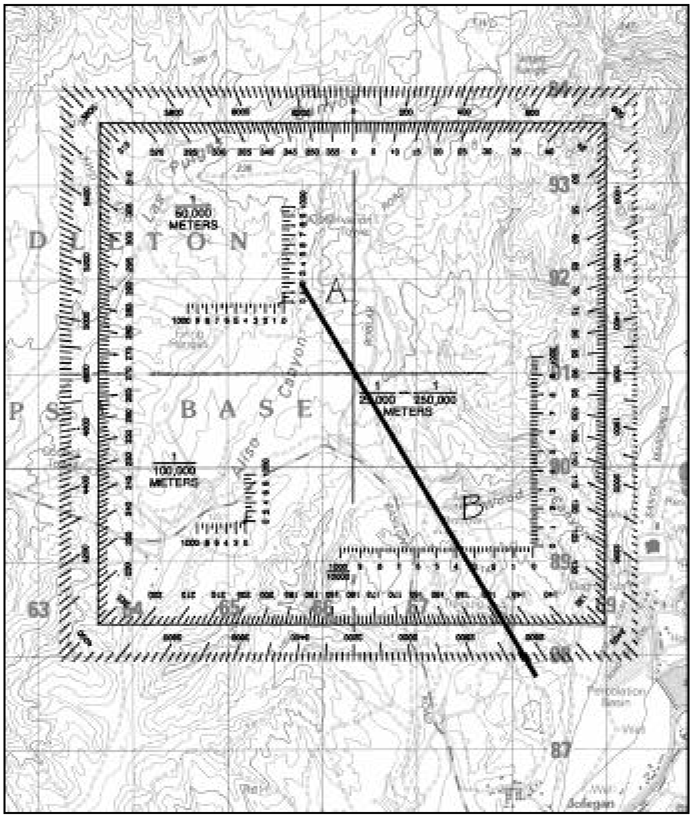


Figure 27

11. Convert a grid azimuth to a magnetic azimuth using the notes that appear in conjunction with the declination diagram.

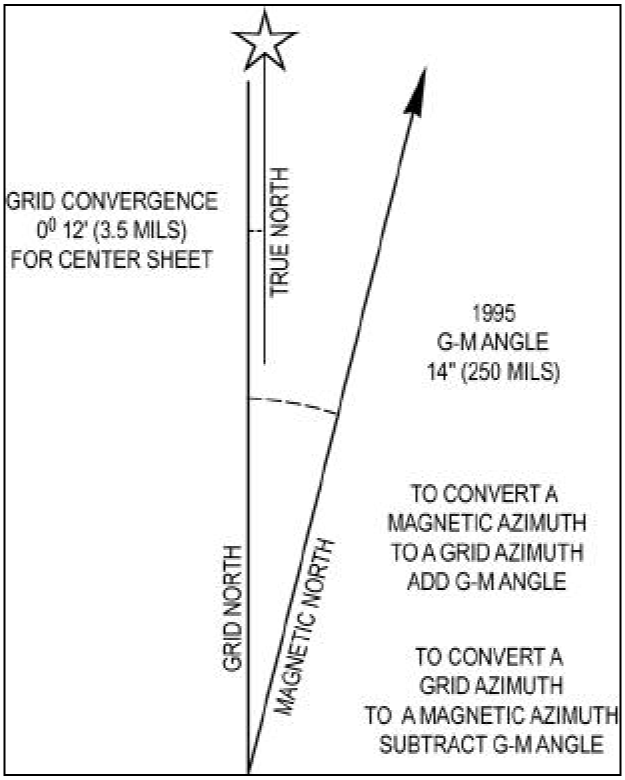


Figure 28

NOTE: An angular difference exists between grid azimuths and magnetic azimuths. An azimuth measured with your protractor on your map must be converted to a magnetic azimuth before you follow it on your compass. Likewise, an azimuth determined with your compass must be converted to a grid azimuth before you plot it on your map.

a. The Grid Magnetic Angle. The G-M angle value is the angular size that exists between grid north and magnetic north. It is an arc—indicated by a dashed line—which connects the grid north and magnetic north prongs. This value is expressed to the nearest 1/2 degree, with mil equivalents shown to the nearest 10 mils. The G-M angle is important to the map reader and land navigator because azimuths translated between map and ground will be in error by the size of the declination angle if not adjusted for it.

b. Grid Convergence. An arc indicated by a dashed line connects the prongs for true north and grid north. The value of the angle for the center of the sheet is given to the nearest full minute with its equivalent to the nearest mil. These data are shown in the form of a grid convergence note.

c. Conversion. There is an angular difference between the grid north and the magnetic north. Since the location of magnetic north does not correspond exactly with the grid north lines on the maps, a conversion from magnetic to grid or vice versa is needed.

- Using the notes, simply refer to the conversion notes that appear in conjunction with the diagram explaining the use of the G-M angle as shown in figure 28. One note provides instructions for converting magnetic azimuth to grid azimuth, the other for converting grid azimuth to magnetic azimuth. The conversion (add or subtract) is governed by the direction of the magnetic north prong relative to that of the north grid prong.

d. Application. Remember that there are no negative azimuths on the azimuth circle. Since 0° is the same as 360°, then 2° is the same as 362°. This is because 2° and 362° are located at the same point on the azimuth circle. The grid azimuth can now be converted into a magnetic azimuth because the grid azimuth is now larger than the G-M angle.

- To plot a magnetic azimuth on a map with a G-M angle, first change it to a grid azimuth as shown in figure 29.

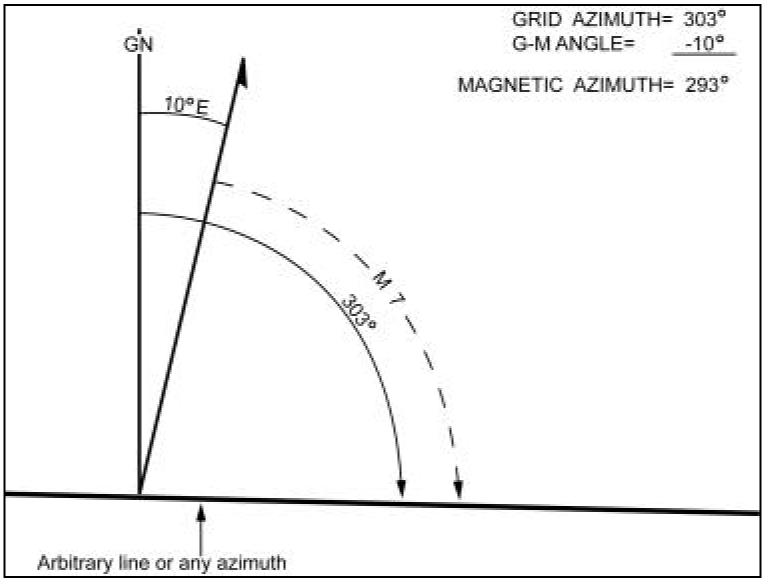


Figure 29

12. Convert a magnetic azimuth to a grid azimuth using the notes that appear in conjunction with the declination diagram.

a. To convert a magnetic azimuth to a grid azimuth, subtract G-M angle as shown in figure 30.

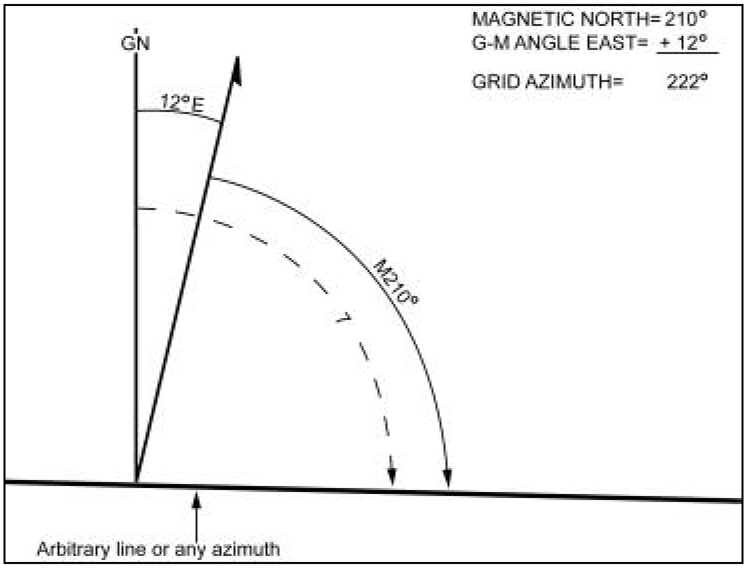


Figure 30

b. The G-M angle diagram should be constructed and used each time the conversion of azimuth is required. Such procedure is important when working with a map for the first time. It also may be convenient to construct a G-M angle conversion table on the margin of the map.

CAUTION: When converting azimuths, exercise extreme care when adding and subtracting the G-M angle. A simple mistake of 1° could be significant in the field.

13. Orient a map using a compass.

- When orienting a map with a compass, remember that the compass measures magnetic azimuths. Since the magnetic arrow points to magnetic north, pay special attention to the declination diagram. There are two techniques.

  (1) First technique. Determine the direction of the declination and its value from the declination diagram.

    (a) With the map in a horizontal position, take the straight edge on the left side of the compass and place it alongside the north-south grid line with the cover of the compass pointing toward the top of the map. This will place the fixed black index line of the compass parallel to north-south grid lines of the map.

    (b) Keeping the compass aligned as directed above, rotate the map and compass together until the magnetic arrow is below the fixed black index line on the compass. At this time, the map is close to being oriented.

    (c) Rotate the map and compass in the direction of the declination diagram.

    (d) If the magnetic north arrow on the map is to the left of the grid north, the compass reading will equal the G-M angle given in the declination diagram. The map is then oriented as shown in figure 31.

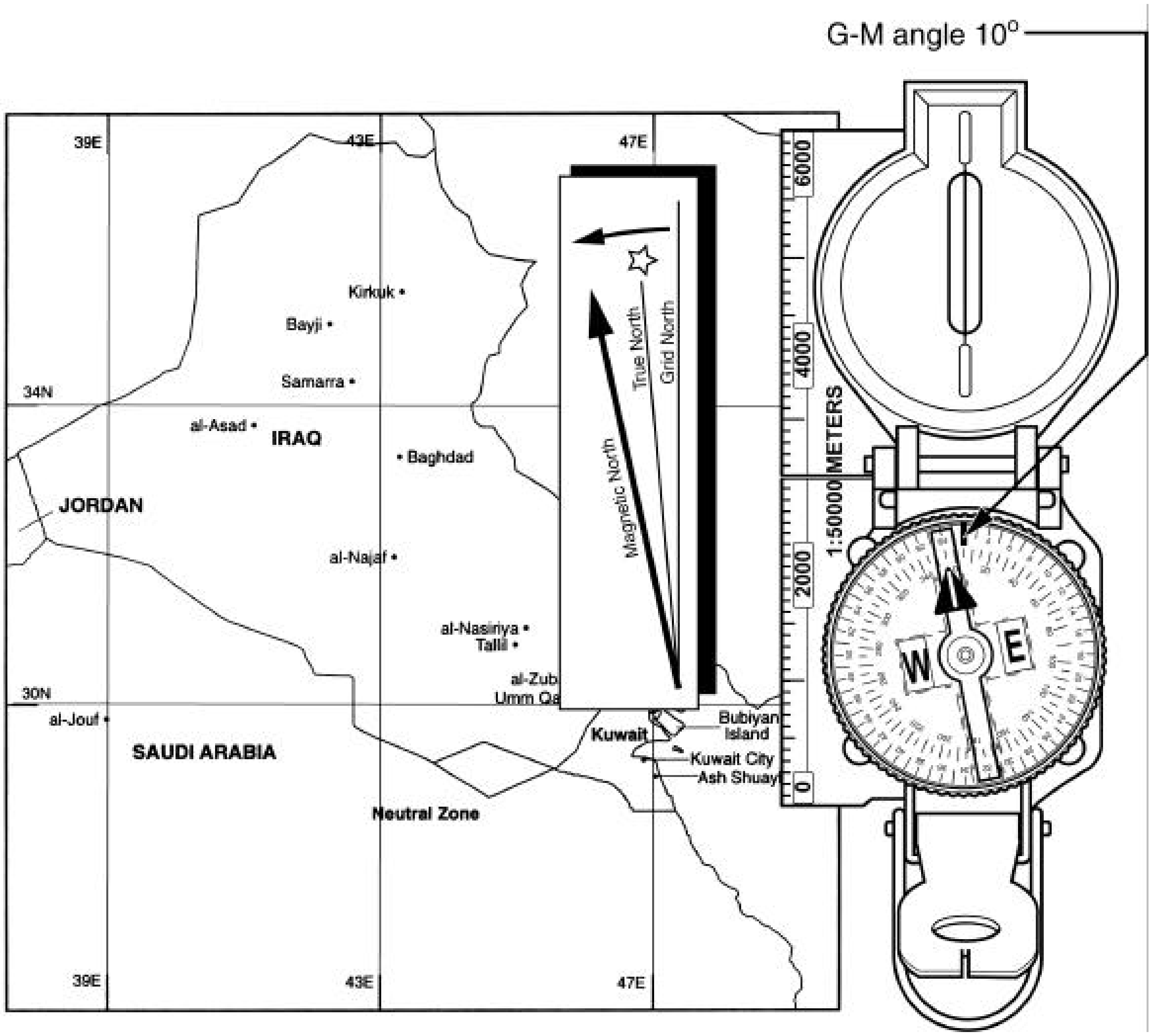


Figure 31

(e) If the magnetic north is to the right of grid north, the compass reading will equal 360° minus the G-M angle as shown in figure 32.

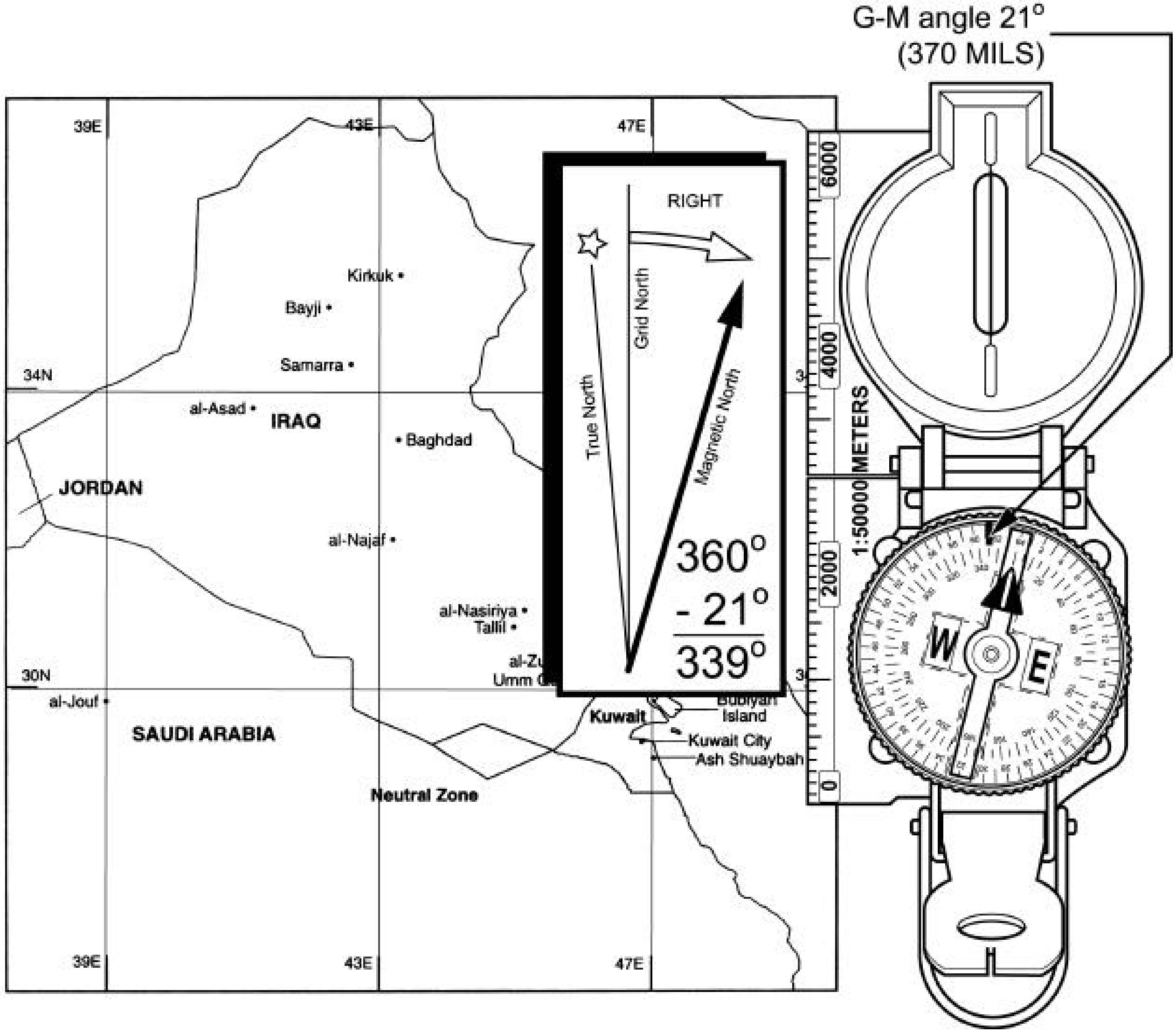


Figure 32

(2) Second technique. Determine the direction of the declination and its value from the declination diagram.

(a) Using any north-south grid line on the map as a base, draw a magnetic azimuth equal to the G-M angle given in the declination diagram with the protractor.

(b) If the declination is easterly (right), the drawn line is equal to the value of the G-M angle. Then align the straightedge, which is on the left side of the compass, alongside the drawn line on the map. Rotate the map and compass until the magnetic arrow of the compass is below the fixed black index line. The map is now oriented as shown in figure 33.

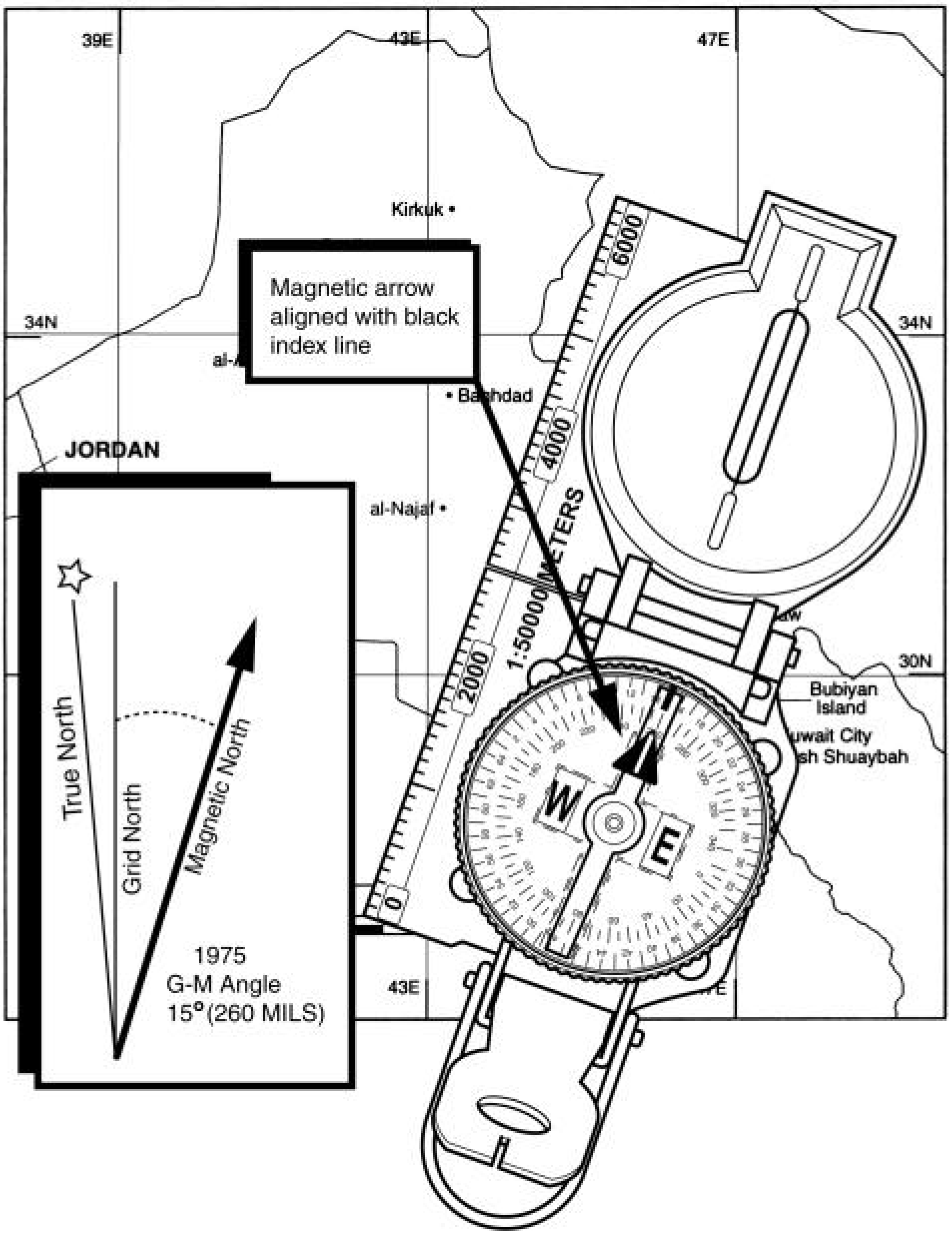


Figure 33

(c) If the declination is westerly (left), the drawn line will equal 360° minus the value of the G-M angle. Then align the straight edge, which is on the left side of the compass, alongside the drawn line on the map. Rotate the map and compass until the magnetic arrow of the compass is below the fixed black index line. The map is now oriented as shown in figure 34.

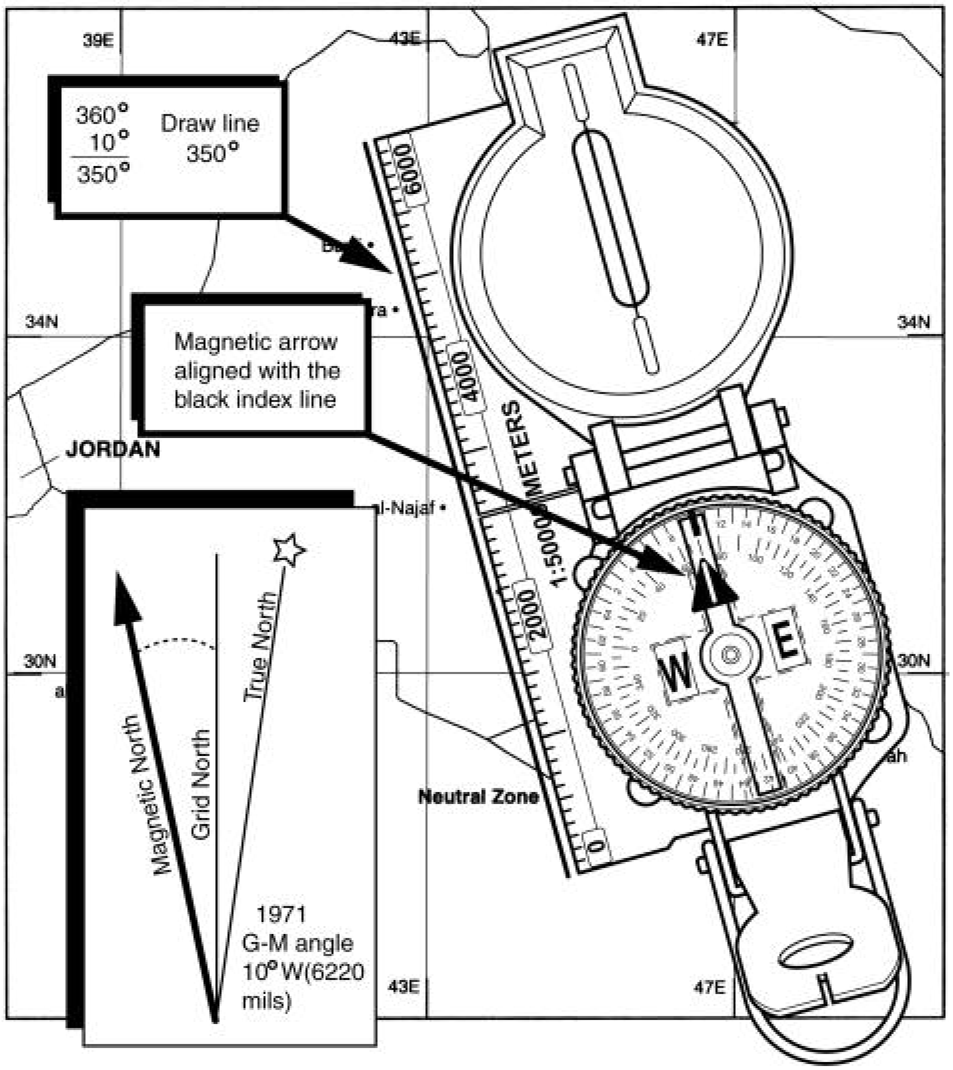


Figure 34

NOTES: Once the map is oriented, magnetic azimuths can be determined with the compass, but the map should not be moved from its oriented position; any change in its position will move it out of line with magnetic north.

Special care should be taken whenever orienting your map with a compass. A small mistake can cause you to navigate in the wrong direction.

14. Orient a map using terrain association.

- A map can be oriented by terrain association when a compass is not available or when the user has to make many quick references as he or she moves across country. Using this method requires careful examination of the map and the ground, and the user must know his or her approximate location.

REFERENCE(S):

FM 21-26, *Map Reading and Land Navigation*

TASK: **MCCS.18.04 (CORE) PERFORM LAND NAVIGATION WITH A MAP AND COMPASS**

CONDITION: **GIVEN THE REQUIREMENT.**

STANDARD: **TO DEMONSTRATE UNDERSTANDING PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: In a field environment during both day and night, the Marine is provided paper, a pen, a protractor, a lensatic compass, a 1:50,000 military map, the six-digit grid coordinate of his current location, the six-digit grid coordinates of and the magnetic azimuths to five checkpoints, and 782-gear.

Standard: The Marine must navigate to the five checkpoints, using a map and compass.

Administrative Notes: The land navigation route must have at least four separate direction changes, must be a total of 2400 meters in length during the day and 1200 meters in length during the night, and must have no major obstacles (such as ponds, etc.) that the Marine must navigate around.

The Marine will not be permitted to use a flashlight after he begins the first leg of his night land navigation course.

PERFORMANCE STEPS:

1. *Determine daylight or darkness pace counts.*

a. A pace is equal to one natural step, about 30 inches long. To accurately use the pace count method, you must know how many paces it takes you to walk 100 meters. To determine this, you must walk an accurately measured course and count the number of paces you take. A pace course can be as short as 100 meters or as long as 600 meters. The pace course, regardless of length, must be on similar terrain to what you will be walking over. It does no good to walk a course on flat terrain and then try to use that pace count on hilly terrain. To determine your pace count on a 600-meter course, count the paces it takes you to walk the 600 meters, then divide the total paces by 6. The answer will give you the average paces it takes you to walk 100 meters. It is important that each person who navigates while dismounted knows his pace count.

(1) There are many methods to keep track of the distance traveled when using the pace count. Some of these methods are put a pebble in your pocket every time you have walked 100 meters according to your pace count; tie knots in a string; or put marks in a notebook. Do not try to remember the count; always use one of these methods or design your own method.

(2) Certain conditions affect your pace count in the field, and you must allow for them by making adjustments.

(a) *Slopes*. Your pace will lengthen on a downslope and shorten on an upgrade. Keeping this in mind, if it normally takes you 120 paces to walk 100 meters, your pace count may increase to 130 or more when walking up a slope.

(b) *Winds.* A head wind shortens the pace and a tail wind increases it.

(c) *Surfaces.* Sand, gravel, mud, snow, and similar surface materials tend to shorten the pace.

(d) *Elements.* Falling snow, rain, or ice causes the pace to be reduced in length.

(e) *Clothing.* Excess clothing and boots with poor traction affect the pace length.

(f) *Visibility*. Poor visibility, such as in fog, rain, or darkness, will shorten your pace.

b. The basic technique used for nighttime land navigation is dead reckoning with several compasses recommended. The point man will be in front of the navigator but just a few steps away for easy control of the azimuth. Smaller steps are taken during night navigation, so remember, the pace count will be different. It is recommended that a pace count obtained by using a predetermined 100-meter pace course be used at night.

2. *Perform basic map reading.*

a. The six colors of a map and what each color represents.

(1) Black represents manmade features such as buildings, roads, trails, power lines, mines, and towers.

(2) Blue represents hydrographic or water features such as streams, rivers, ponds, lakes, swamps, and reservoirs.

(3) Green represents vegetation such as orchards, forests, and shrubs.

(4) Red represents major roads and other cultural features such as populated areas and boundaries.

(5) Brown represents contour lines.

(6) Red and brown are combined to identify cultural features, all relief features, non-surveyed spot elevations, and elevation, such as contour lines on red-light readable maps.

NOTE: Newer maps have combined red and brown to the color identified as "red/brown." This was done because the color red did not show up well under a red lens flashlight. Therefore, the Marine may substitute "red/brown" for red and brown; however, he must still identify what ""red/brown" represents, i.e., major roads and contour lines.

b. Determine the six-digit grid coordinate of a specified point on a map.

NOTE: There is only one rule to remember when reading or reporting grid coordinates—always read to the RIGHT and then UP.

(1) Determine the four-digit grid coordinate of a specified point on the map.

EXAMPLE: Let's say that you desire to determine the grid coordinates of point C in figure 1 to the nearest 1,000 meters. First identify the grid square in which it is located. The cardinal rule of map reading is "READ RIGHT, THEN UP." In other words, looking at the numbers at the bottom of the map, read from left to right until you identify the last north-south grid line before arriving at point C. This is grid line 30. Write "30" on a piece of paper. Now look at the numbers on the side of the map and read **UP** until you identify the last east-west grid line before arriving at point C. This is grid line 50. Write "50" beside the "30." The identity of the grid square is 3050. Note that the point where these two grid lines intersect is in the lower left hand corner of the grid square. In other words, identify grid squares by the grid lines that intersect in the lower left hand corner (figure 1).

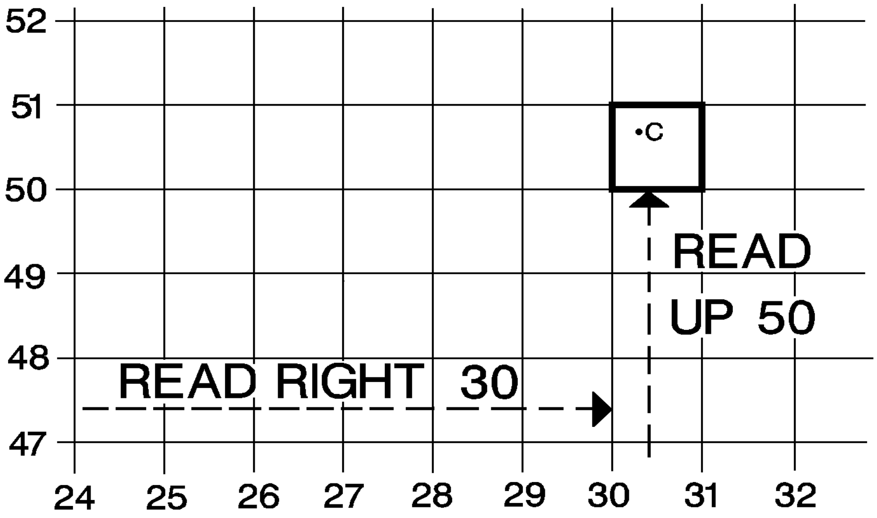


Figure 1

(2) Locate points within a grid square.

EXAMPLE: Imagine dividing the grid square into 100 smaller squares. The coordinates of a point in such a grid square have six digits (numbers). Each of the grid squares in figure 2 is 1,000 meters wide and 1,000 meters high. One of the grid squares is divided into 100 smaller squares, each 100 meters wide and 100 meters high. Note that the lines within the grid square also read "**RIGHT, THEN UP**." In a six-digit grid coordinate, such as 303507, the first 3 numbers (303) are the "**READ RIGHT**" part; whereas, the last 3 numbers (507) are the "**THEN UP**" part.

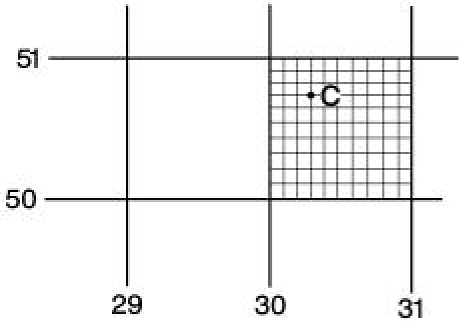


Figure 2

NOTE: The standard GTA 5-2-12 1981 protractor has three coordinate scales, one for 1:50,000 maps, one for 1:100,000 maps, and one for either 1:25,000 or 1:250,000 maps. Use the scale that fits your map. In this case, it should be the 1:50,000 scale that is in the upper left hand corner of the protractor.

(3) Locate point C in grid square 3050, using the coordinate scale on your protractor and the following procedures:

(a) Place the proper coordinate scale of your protractor on the map so that the zero-zero point is to the **BOTTOM RIGHT** of the scale (figure 3).

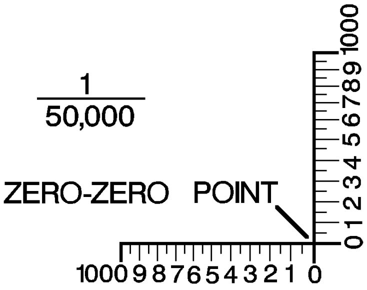


Figure 3

(b) Place the zero-zero point at the lower left hand corner of grid square 3050 (figure 4).

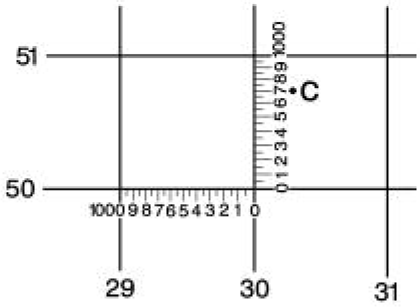


Figure 4

(c) Keep the horizontal line of the scale directly on top of the east-west grid line (in this case, grid line 50) and slide it to the right until the vertical line of the scale touches the point C for which the coordinates are desired (figure 5).

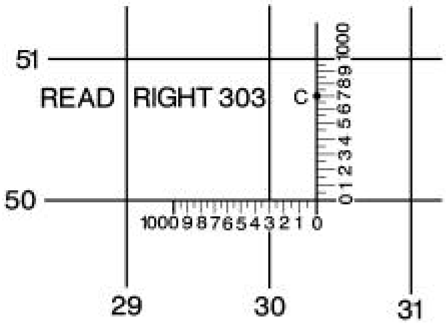


Figure 5

(d) Examine the two sides of the coordinate scale to ensure that the horizontal line of the scale is aligned with the east-west grid line and that the vertical line of the scale is parallel with the north-south grid line.

(e) Determine your **RIGHT** reading by first reading the value of the grid line to the left of point C (30). Add to this value the number that tells how far (in hundreds of meters) point C is into the grid square. In this case, it is 300 meters (figure 5). You now have the complete **RIGHT** reading (303).

(f) Next, determine your **UP** reading by first reading the value of the horizontal grid line below point C (50). Add to this value the number that tells how far up (in hundreds of meters) point C is into the grid square. In the case, it is 700 meters. You now have the complete UP reading of 507 (figure 6). When determining both your RIGHT and UP reading, round your value to the nearest number on your coordinate scale.

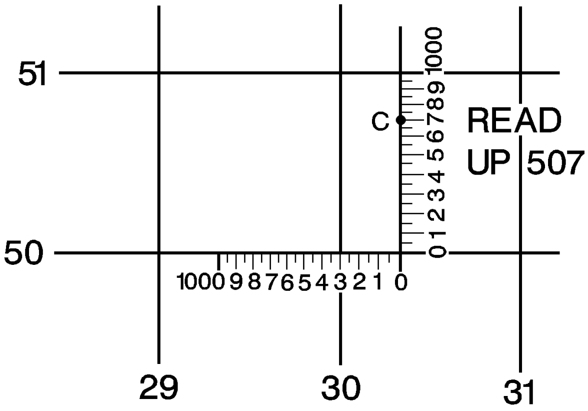


Figure 6

(g) By combining the RIGHT reading (303) with the UP reading (507), you have accurately determined the six-digit grid coordinate of point C (303507).

NOTE: When a Marine becomes proficient at land navigation, he can accurately determine six-digit grid coordinates by estimation, without the use of a coordinate scale.

c. Plot a six-digit grid coordinate on the map.

(1) To locate the correct grid square, determine the four-digit grid coordinates from the given six-digit grid coordinates. Split your six-digit grid coordinates into two parts. For example, the grid coordinates 025672 would be split to read 025 (this is your RIGHT reading) and 672 (this is your UP reading).

(a) Determine the vertical (north-south) grid line. It is the first two numbers of your RIGHT reading. In this case, it is

02

(b) Determine the horizontal (east-west) grid line. It is the first two numbers of your UP reading. In this case, it is

67

(c) Determine your four-digit grid coordinates. Combine the RIGHT reading with the UP reading.

02 + 67 = 0267

(d) **“READ RIGHT, THEN UP.”** Take the first two numbers of your new four-digit grid coordinate (02); and starting at the left side of your map, **READ** to the **RIGHT** until you find the vertical grid line that is labeled "02" (figure 7).

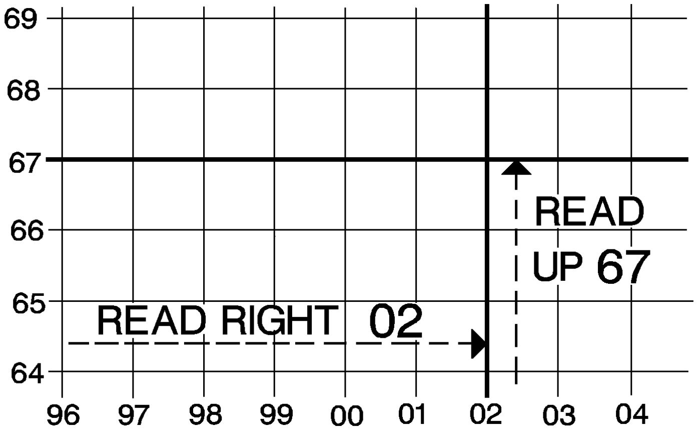


Figure 7

Take the last two numbers of your new four-digit grid coordinate (67); starting at the bottom of your map, **“READ UP”** until you find the horizontal grid line that is labeled “67” (figure 7). Follow the vertical grid line “02” and the horizontal grid line “67” until they intersect. The two lines will intersect at the lower left hand corner of grid square 0267 (figure 7).

(2) Finish determining the location of the six-digit grid coordinates using the 3rd and 6th numbers of the grid coordinate.

(a) Determine the 3rd and 6th numbers of your six-digit grid coordinate. In this case, the 3rd number is 5. This is the number that you must **“READ RIGHT.”** The 6th number is 2. This is your UP number.

025672

(b) Place the proper coordinate scale of your protractor with the zero-zero point at the lower left hand corner of the grid square 0267, keeping the horizontal line of the scale directly on top of the east-west grid line (figure 8). Remember, the zero-zero point is on the right side of the coordinate scale, but it is positioned on the lower left hand corner of the grid square.

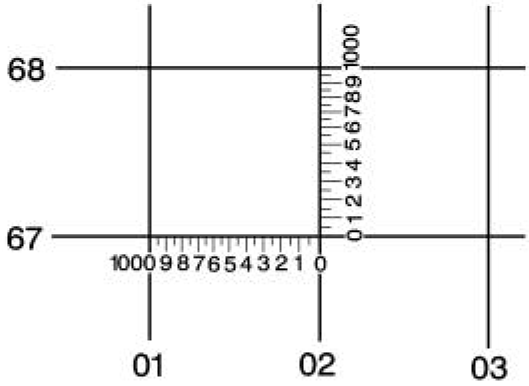


Figure 8

(c) Slide the protractor to the right until vertical grid line 02 intersects the horizontal scale at the 100 meter reading (5) (figure 9). This point (025) is your RIGHT reading.

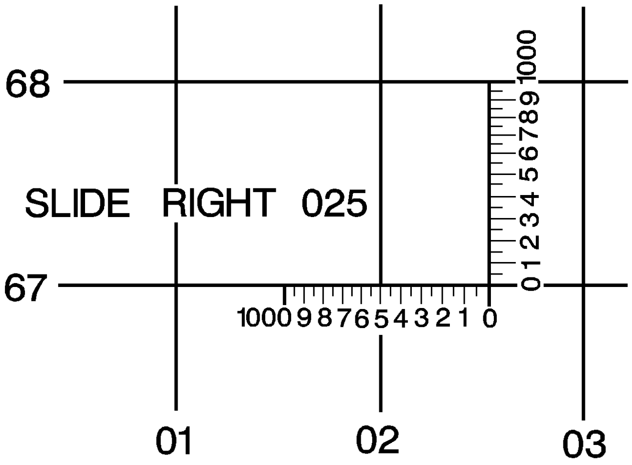


Figure 9

(d) Determine the position of your UP reading by plotting a point adjacent to your vertical scale equal to your UP reading. In this case, the UP value of the vertical scale is at the 100 meter reading (2) (figure 10). This point is not only your UP reading (672), but it is also the location of your six-digit coordinate (025672).

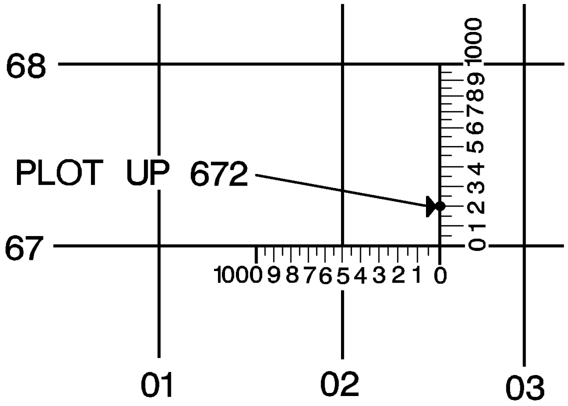


Figure 10

d. Identify natural features on a map.

(1) Identify a hill on a map.

- A hill is an area of high ground. From a hilltop, the ground slopes down in all directions. A hill is shown on a map by contour lines forming concentric circles. The inside of the smallest closed circle is the hilltop. For example, look at the hilltop located at 749843 in figure 11.

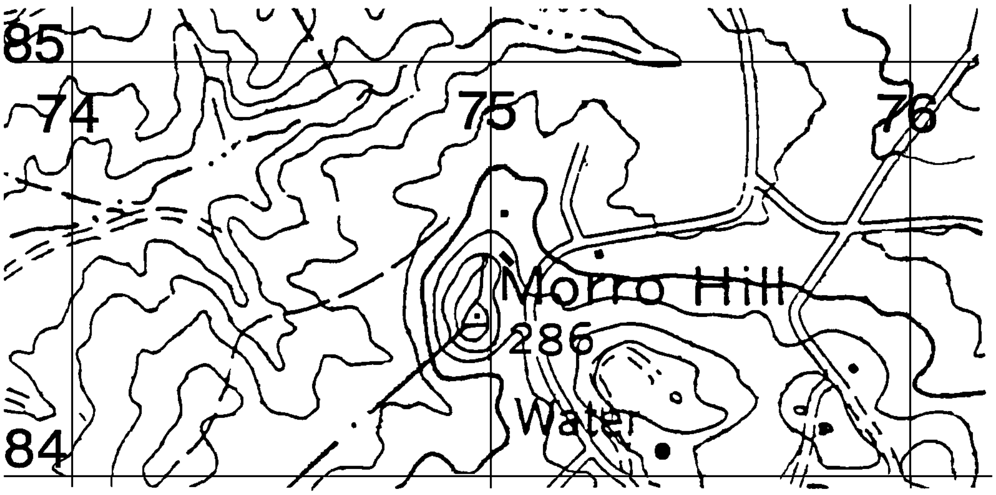


Figure 11

(2) Identify a finger on a map.

- A finger is a short, continuous sloping line of higher ground, normally jutting out from the side of a ridge or hill. A finger is often formed by two roughly parallel draws. The ground slopes down in three directions and up in one. Contour lines on a map depict a finger with the closed end of the U or V pointing away from high ground (figure 12).

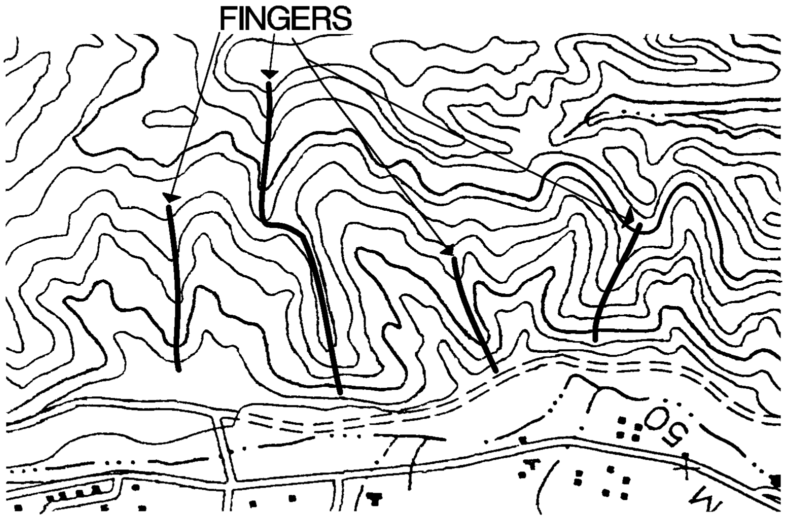


Figure 12

(3) Identify a draw on a map.

- A draw is a short, continuous sloping line of low ground, normally cut into the side of a ridge or hill. Often, there is a small stream running down the draw. In a draw, there is essentially no level ground. Therefore, little or no maneuver room exists within its confines. If you are standing in the middle of a draw, the ground slopes upward in three directions and downward in the other direction. Contour lines on a map depict a draw with the closed end of the U or V pointing toward high ground (figure 13).

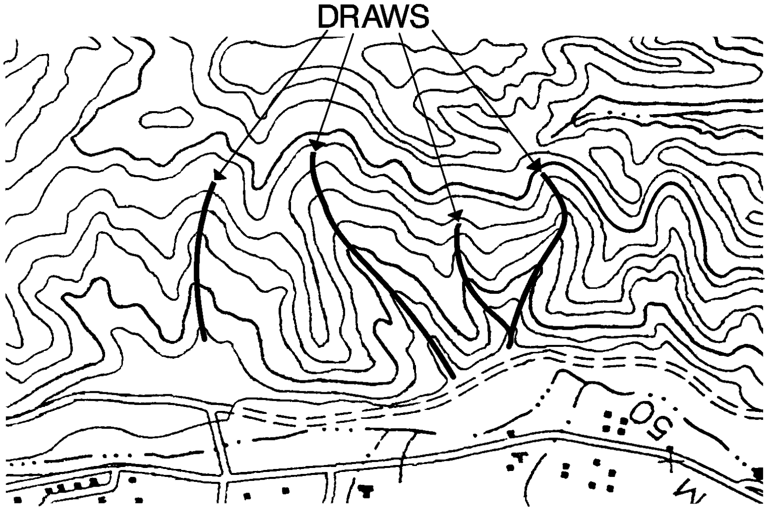


Figure 13

NOTE: Look at point (A) on figure 14. Is it a finger or a draw? Actually, it is neither. From the amount of information given in the figure, you cannot identify the type of terrain feature. You **MUST** look at the surrounding terrain features. If there is a hill in the direction of the open end of the U, then the feature is a finger; if not, it is a draw. If there is a stream in the middle of the feature, then it is a draw.

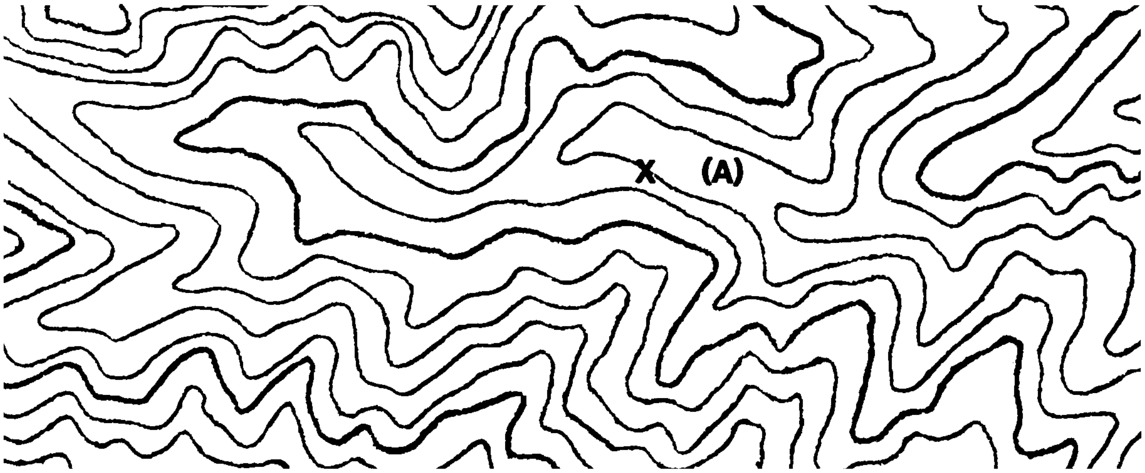


Figure 14

(4) Identify a saddle on a map.

- This is a dip or low point between two areas of higher ground. A saddle is not necessarily the lower ground between two hilltops; it may be simply a dip or break along a level ridge crest. If you are in a saddle, there is high ground in two opposite directions and low ground in the other two directions. A saddle is normally represented as an hourglass or by a figure-eight shaped contour line (figure 15).

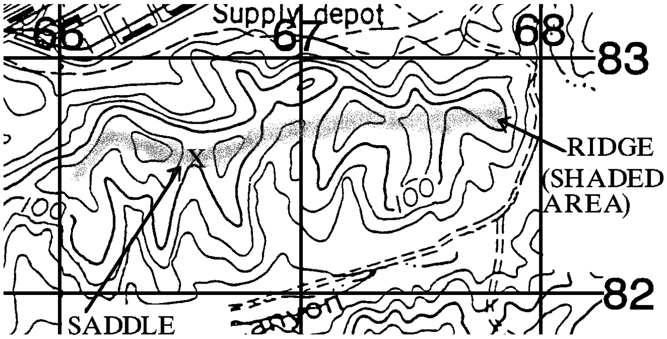


Figure 15

(5) Identify a ridge on a map.

-A ridge is a series of hills that are connected to each other near the top. A ridgeline may extend for many miles. It may be winding or quite straight. It may have a reasonably uniform elevation along its top or it may vary greatly in elevation (figure 15).

(6) Identify a cliff on a map.

-A cliff is a vertical or near vertical terrain feature. It is an abrupt change of the land. When a slope is so steep that the contour lines converge into one "carrying" contour of contours, this last contour line sometimes has tick marks pointing toward low ground (figure 16).

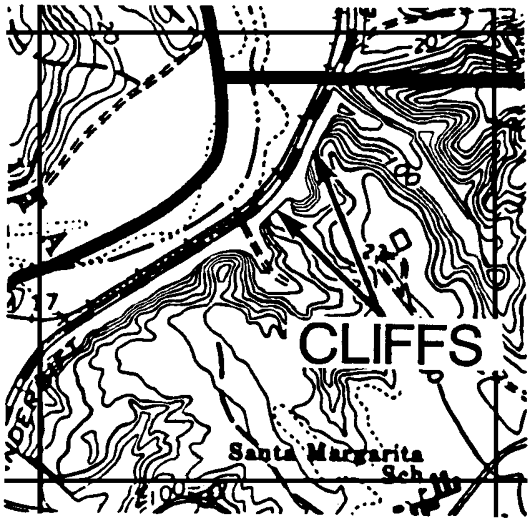


Figure 16

e. Identify manmade features on a map.

- Figure 17 depicts a church, school, building, road, railroad, bridge, and power line as shown on many maps.

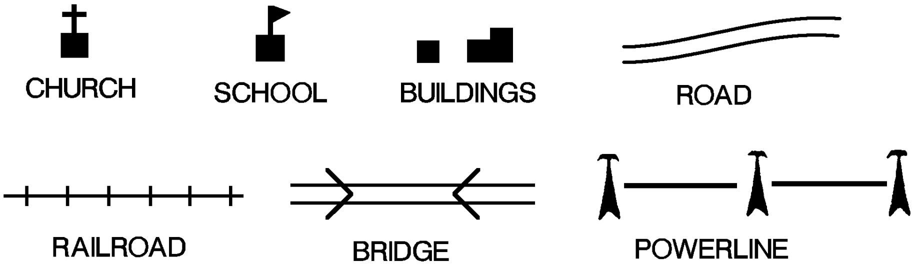


Figure 17

NOTE: Each map may use different symbols for manmade features. The index (found in the lower left hand corner of most maps) will give the symbols for manmade features used by that particular map (figure 18). Consult and review it every time you are issued a new map.

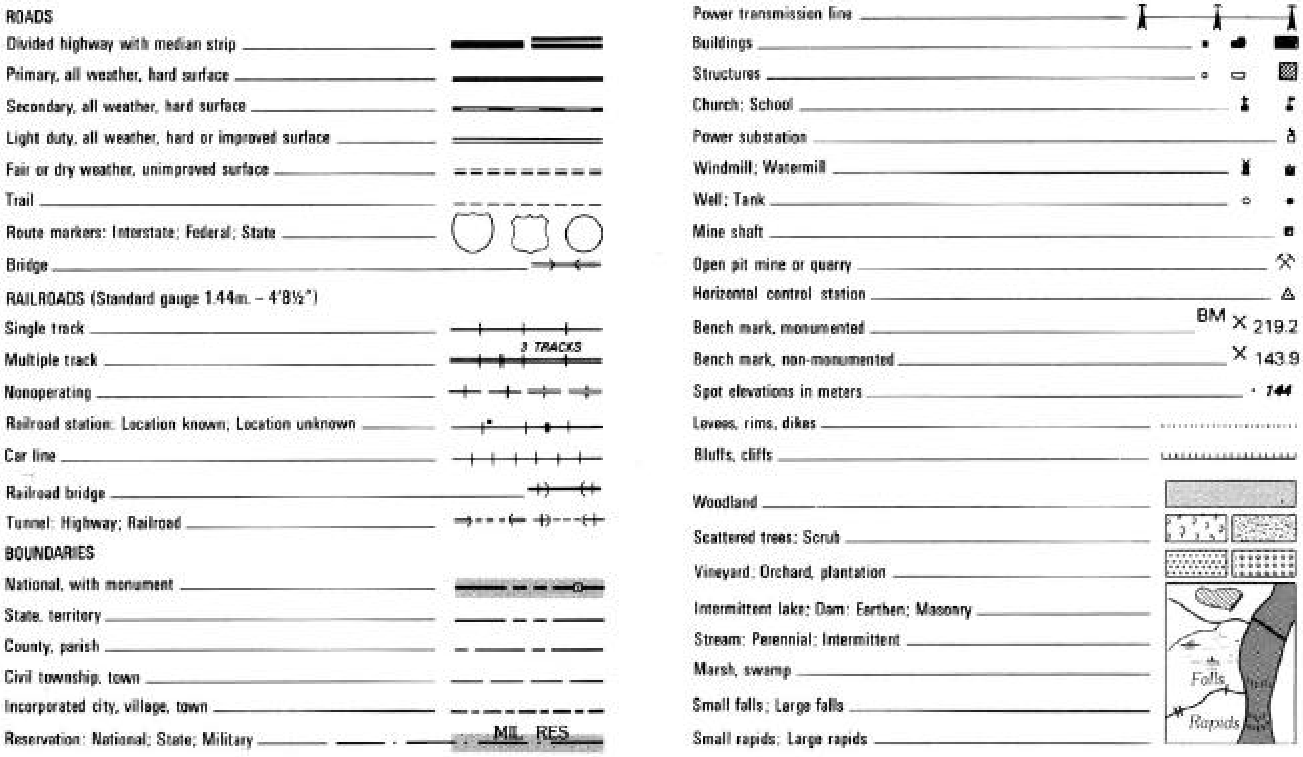

ROADS
Divided highway with median strip
Primary, all weather, hard surface
Secondary, all weather, hard surface
Light duty, all weather, hard or improved surface
Fair or dry weather, unimproved surface
Trail
Route markers: Interstate; Federal; State
Bridge
RAILROADS (Standard gauge 1.44m. – 4'8½")
Single track
Multiple track
3 TRACKS
Nonoperating
Railroad station: Location known; Location unknown
Car line
Railroad bridge
Tunnel: Highway; Railroad
BOUNDARIES
National, with monument
State, territory
County, parish
Civil township, town
Incorporated city, village, town
Reservation: National; State; Military
MIL. RES.
Power transmission line
Buildings
Structures
Church; School
Power substation
Windmill; Watermill
Well; Tank
Mine shaft
Open pit mine or quarry
Horizontal control station
Bench mark, monumented
BM
219.2
Bench mark, non-monumented
143.9
Spot elevations in meters
144
Levees, rims, dikes
Bluffs, cliffs
Woodland
Scattered trees; Scrub
Vineyard; Orchard, plantation
Intermittent lake; Dam: Earthen; Masonry
Stream: Perennial; Intermittent
Marsh, swamp
Small falls; Large falls
Small rapids; Large rapids
Falls
Rapids

Figure 18

f. Measure the straight line distance between two points on a map.

(1) To determine the straight line distance between two points on a map, lay a straightedge piece of paper on the map so that the edge of the paper touches both points and extends past them. Make a tick mark on the edge of the paper at each point (figure 19). Remember that the center of the topographic symbol designates the exact location of the object on the ground.

MEASURE ALL MAP DISTANCES FROM THE CENTER

OF THE TOPOGRAPHIC SYMBOL

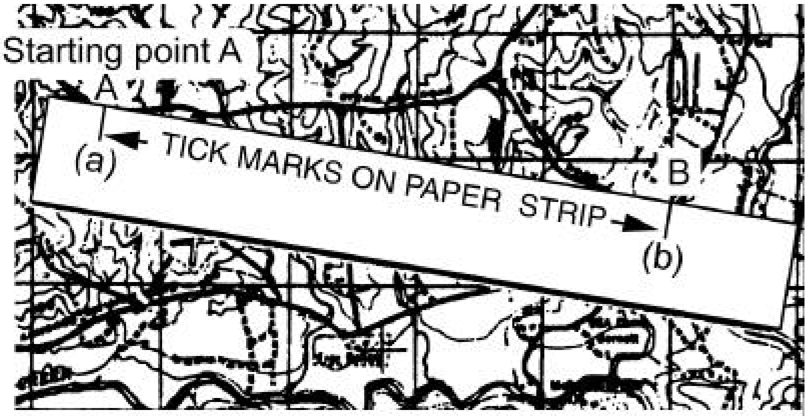


Figure 19

(2) To convert map distance to ground distance, move the paper down to the appropriate unit of measure on the graphic bar scale, and align the right tick mark (b) with a printed number in the primary scale so that the left tick mark (a) is in the extension scale (figure 20).

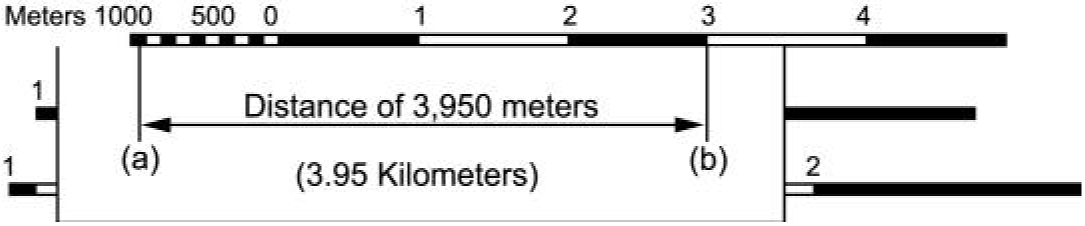


Figure 20

EXAMPLE: The right tick mark (b) is aligned with the 3,000 meter mark in the primary scale, thus the distance is at least 3,000 meters. Now look at the extension scale. It is numbered with zero at the right and increases to the left. When using the extension scale, always read **RIGHT TO LEFT** (figure 21).

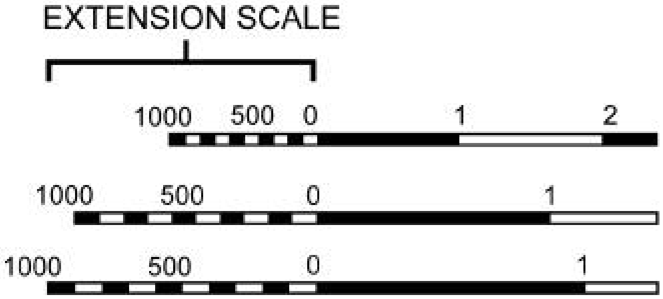


Figure 21

From the zero to the end of the first shaded square is 100 meters. From the beginning of the white square to the left is 100 to 200 meters; at the beginning of the second shaded square is 200 to 300 meters. Remember, the distance in the extension scale increases from right to left. To determine the distance from tick mark (a), estimate the distance inside of the squares to the closest tenth. As you break down the distance between the squares in the extension scale, you will see that tick mark (a) is aligned with the 950 meter mark. Adding the distance of 3,000 meters determined in the primary scale, we find that the total distance between (a) and (b) is:

3,000 + 950 = 3,950 meters

(3) There may be times when the distance you measure on the edge of the paper exceeds the graphic scale. One technique you can use to determine the distance is to align the right tick mark (b) with a printed number in the primary scale, in this case, 5 kilometers (figure 22). You can see that from point (a) to (b) is more than 6,000 meters. To determine the distance, place a tick mark (c) on the edge of the paper at the end of the extension scale (figure 22).

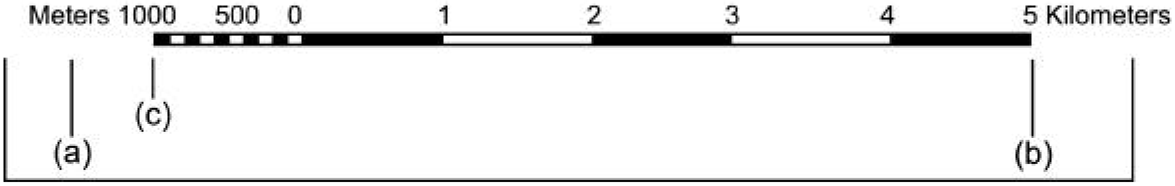


Figure 22

(4) You know that from point (b) to (c) is 6,000 meters (5,000 from the primary scale and 1,000 from the extension scale). Now measure the distance between points (a) and (c) on your sheet of paper in the same way you did before, only use point (c) as your right hand tick mark (figure 23). The total ground distance between start and finish is 6,420 meters.

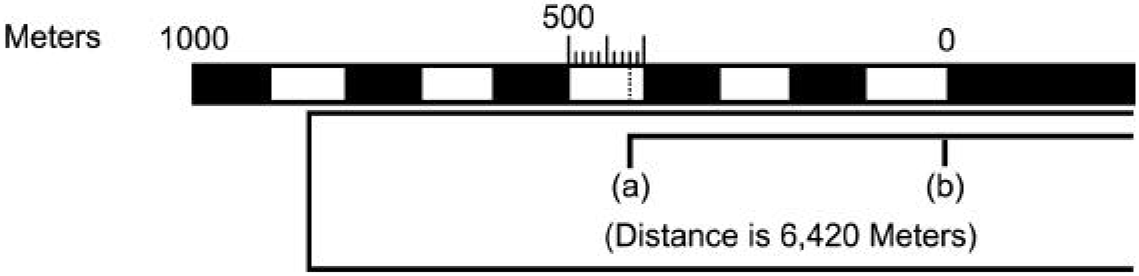


Figure 23

NOTE: One point to remember is that distance measured on a map does not take into consideration the rise and fall of the land. All distances measured by using the map and graphic scales are flat distances. Therefore, the distance measured on a map will increase when actually measured out on the ground (figure 24).

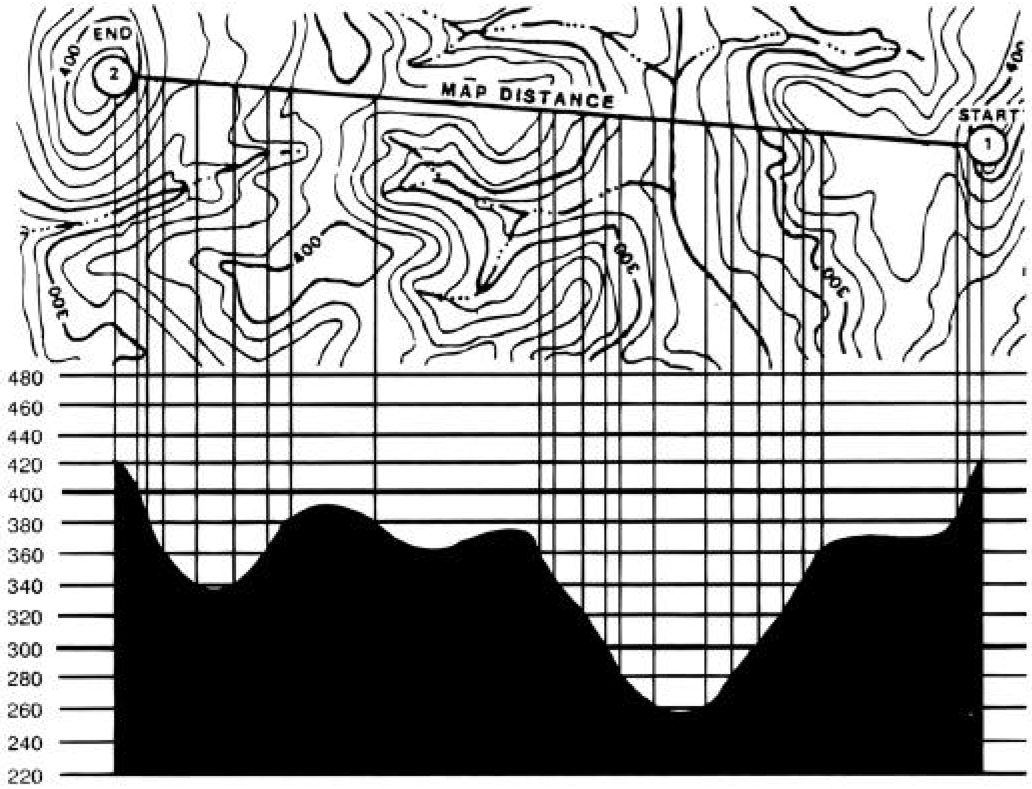


Figure 24

g. Measure the curved line distance between two points on a map.

NOTE: To measure distance along a winding road, stream, or other curved line, you still use the straightedge of a piece of paper. In order to avoid confusion concerning the starting point and the ending point, a six-digit coordinate, combined with a description of the topographical feature, should be given for both the starting and ending points.

(1) Place a tick mark on the paper and map at the starting point from which the curved line is to be measured. Place a paper strip along the center of the irregular feature (figure 25), and extend the tick mark onto the paper strip.

NOTE: Because the paper strip is straight and the irregular feature is curved, the straightedge will eventually leave the center of the irregular feature. At the exact point where this occurs, place a tick mark on both the map and paper strip.

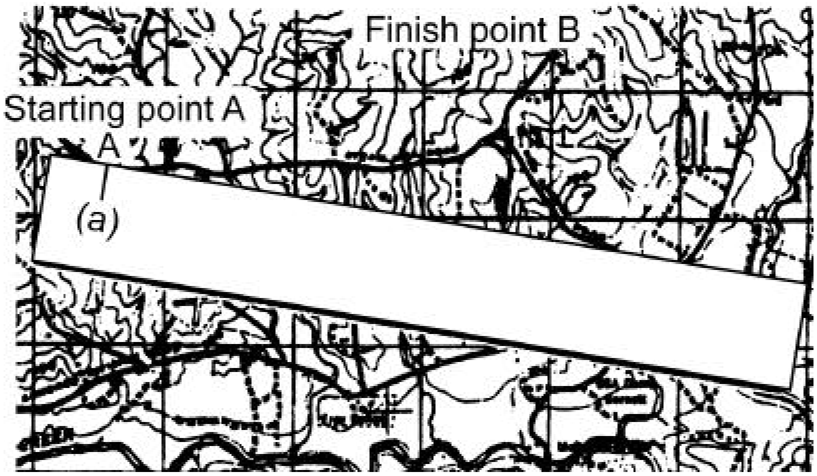


Figure 25

(2) Keeping both tick marks together (on paper and map), place the point of the pencil close to the edge of the paper on the tick mark to hold it in place and pivot the paper until another straight portion of the curved line is aligned with the edge of the paper. Repeat this procedure while carefully aligning the straightedge with the center of the feature and placing tick marks on both the map and paper strip each time it leaves the center until you have ticked off the desired distance (figure 26).

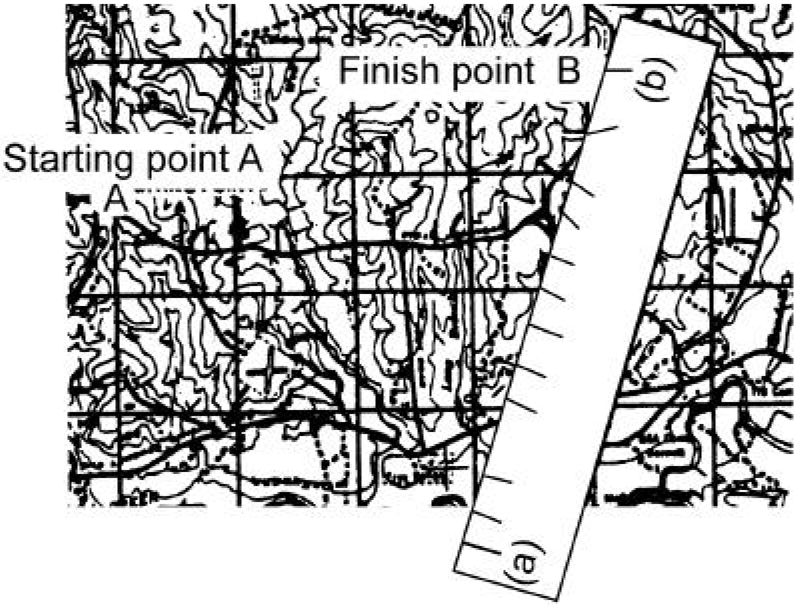


Figure 26

(3) Place the paper strip on a graphic bar scale and determine the ground distance measured (figure 27). This is done in the same manner as measuring straight-line distance.

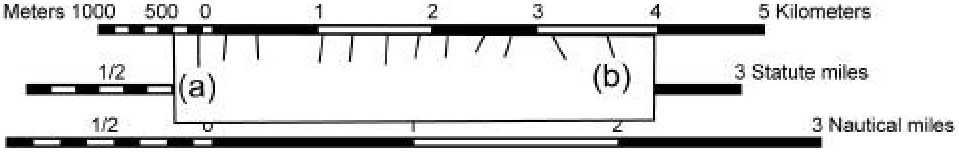


Figure 27

3. *Follow an azimuth using the center-hold technique.*

- First, open the compass to its fullest so that the cover forms a straightedge with the base. Move the lens (rear sight) to the rearmost position, allowing the dial to float freely. Next, place your thumb through the thumb loop, form a steady base with your third and fourth fingers, and extend your index finger along the side of the compass. Place the thumb of the other hand between the lens (rear sight) and the bezel ring; extend the index finger along the remaining side of the compass and the remaining fingers around the fingers of the other hand. Pull your elbows firmly into your sides; this will place the compass between your chin and your belt. To measure an azimuth, simply turn your entire body toward the object, pointing the compass cover directly at the object. Once you are pointing at the object, look down and read the azimuth from beneath the fixed black index line (figure 28). This preferred method offers the following advantages over the sighting technique. It can be used

(1) Faster and easier

(2) Under all conditions of visibility

(3) When navigating over any type of terrain

(4) Without putting down the rifle; however, the rifle must he slung well back over either shoulder

(5) Without removing eyeglasses

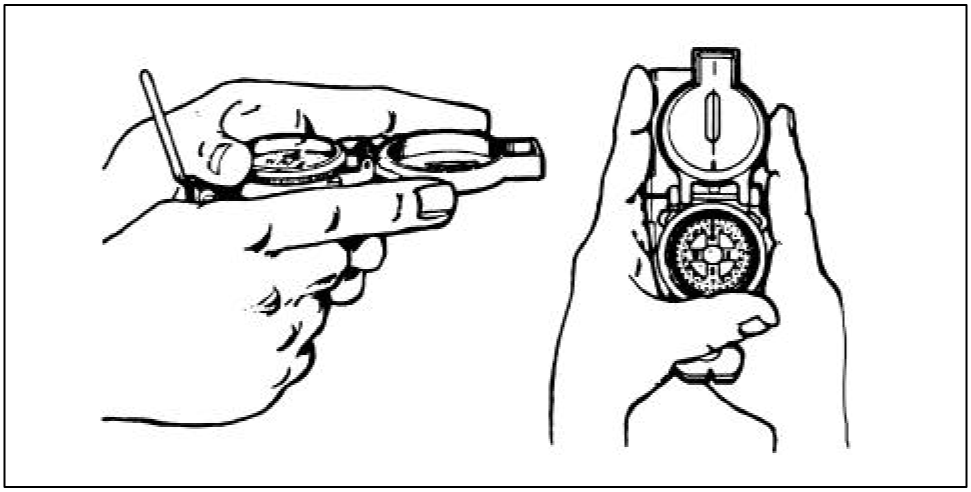


Figure 28

4. *Follow an azimuth using the compass-to-cheek technique.*

- Fold the cover of the compass containing the sighting wire to a vertical position; then fold the rear sight slightly forward. Look through the rear sight slot and align the front sight hairline with the desired object in the distance. Then glance down at the dial through the eye lens to read the azimuth (figure 29).

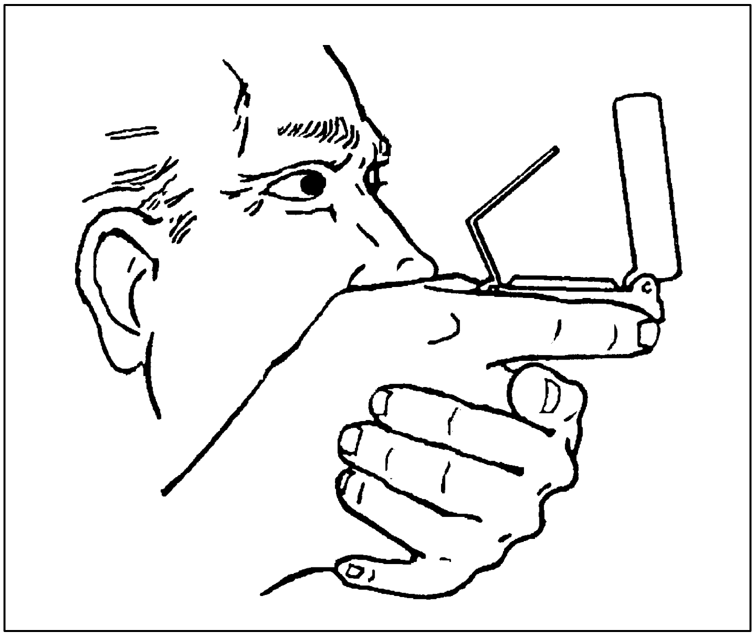


Figure 29

NOTES: The compass-to-cheek technique is used almost exclusively for sighting, and it is the best technique for this purpose.

5. *Bypass an obstacle, as required.*

- To bypass enemy positions or obstacles and still stay oriented, detour around the obstacle by moving at right angles for specified distances.

(1) For example, while moving on an azimuth of 90°, change your azimuth to 180° and travel for 100 meters; change your azimuth to 90° and travel for 150 meters; change your azimuth to 360° and travel for 100 meters; then change your azimuth to 90° and you are back on your original azimuth line (figure 30).

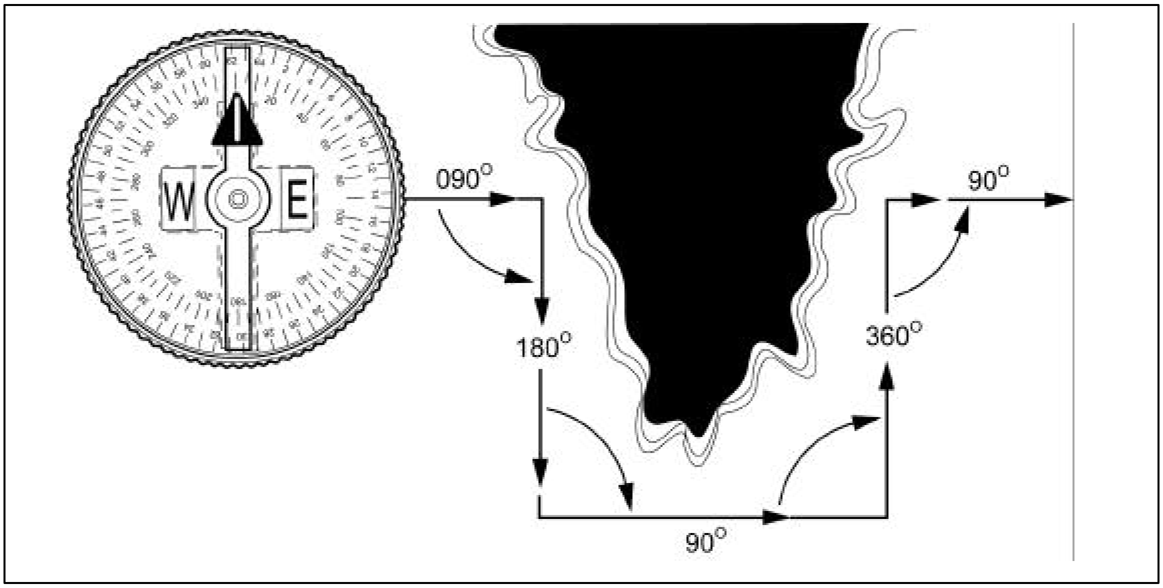


Figure 30

(2) Bypassing an unexpected obstacle at night is a simple matter. To make a 90° turn to the right, hold the compass in the center hold technique; turn until the center of the luminous letter E is under the luminous line (do not move the bezel ring). To make a 90° turn to the left, turn until the center of the luminous letter W is under the luminous line. This does not require changing the compass setting (bezel ring), and it ensures accurate 90° turns.

6. *Perform a deliberate offset, as required.*

- A deliberate offset is a planned magnetic deviation to the right or left of an azimuth to an objective. Use it when the objective is located along or in the vicinity of a linear feature such as a road or stream. Because of errors in the compass or in map reading, the linear feature may be reached without knowing whether the objective lies to the right or left. A deliberate offset by a known number of degrees in a known direction compensates for possible errors and ensures that upon reaching the linear feature, the user knows whether to go right or left to reach the objective. Ten degrees is an adequate offset for most tactical uses. Each degree offset will move the course about 18 meters to the right or left for each 1,000 meters traveled. For example, in figure 31, the number of degrees offset is 10. If the distance traveled to “x” in 1,000 meters, then “x” is located about 180 meters to the right of the objective.

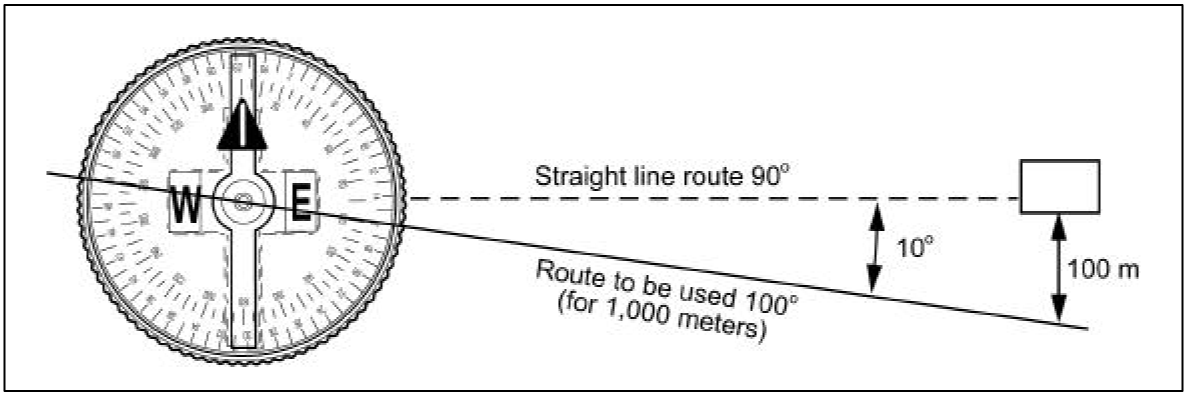


Figure 31

REFERENCE (S):

FM 21-26, *Map Reading and Land Navigation*

TASK: **MCCS.19.01 (CORE) COMMUNICATE USING FIELD PHONES**

CONDITION: GIVEN A TA-312 OR TA-1, BATTERIES, WIRE, AND A TECHNICAL MANUAL.

STANDARD: TO DEMONSTRATE UNDERSTANDING PER THE REFERENCES.

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a TA-312 or TA-1, batteries, wire, and a technical manual.

Standard: To transmit a message per the references.

PERFORMANCE STEPS:

NOTE: Refer to the figures below for each performance step. Figure 1 is a TA-312 field telephone and figure 2 is a TA-1 field telephone.

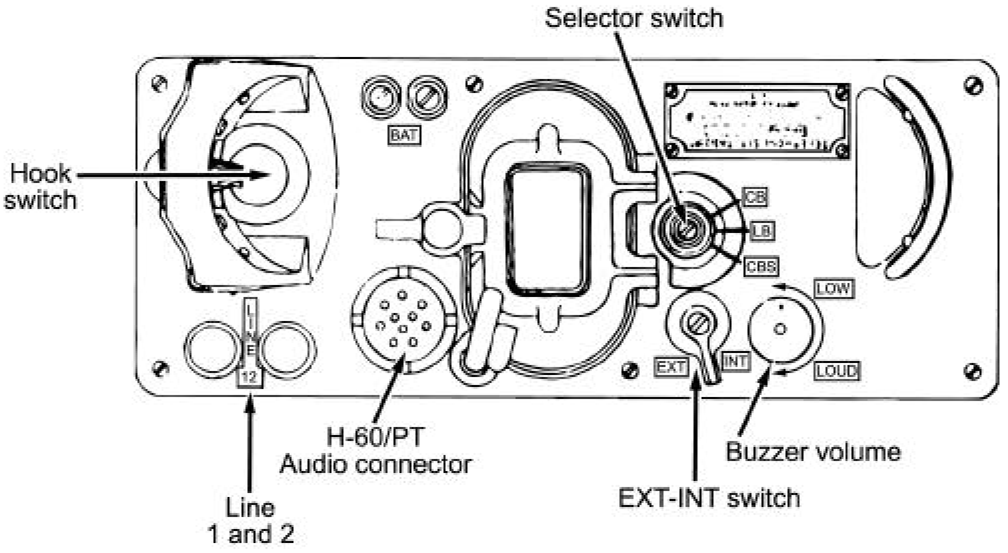


Figure 1

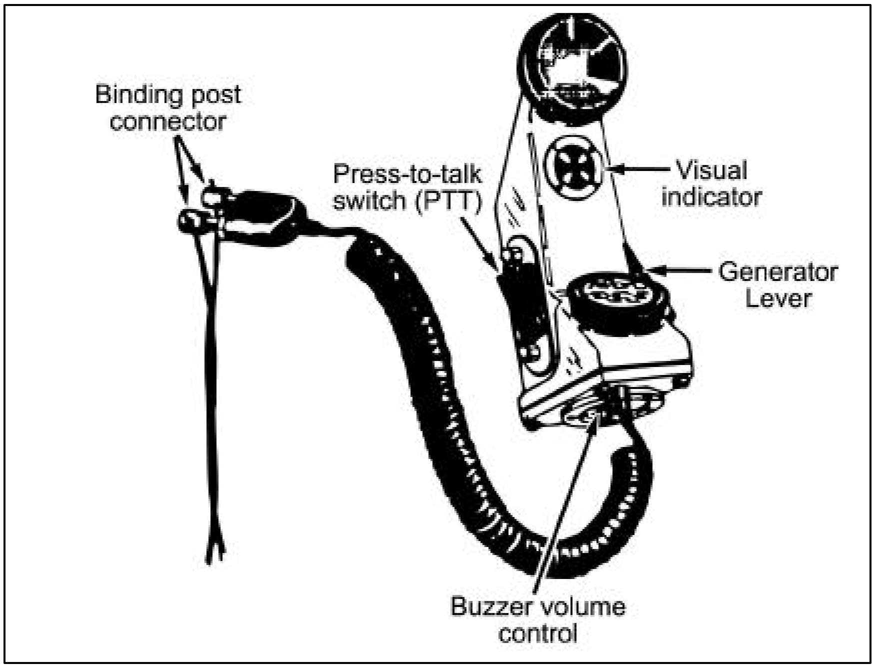


Figure 2

1. *Install batteries as appropriate.*

NOTE: The TA-1 field telephone is not battery operated. This performance step applies only to the TA-312 field telephone.

- Install two BA-30 dry cell batteries.

(1) Remove the handset from the retaining cradle.

(2) Rotate the battery compartment latch clockwise until the cover is released.

(3) Lift the cover to expose the battery compartment.

(4) Insert two batteries in the slots of the battery compartment.

(a) Position one battery positive terminal up.

(b) Position the second battery positive terminal down.

(5) Close the cover and turn the latch counterclockwise.

2. *Connect communication wire to the field telephone.*

a. Strip approximately one inch of insulation from the two wires in the line to be connected.

b. Fold back the stripped wires about one-half inch from the end.

c. Push down one of the LINE 1-2 binding posts (fig 1) for connection to a TA-312, or push in one binding post connector (fig 2) for connection to a TA-1. Insert the bare wire of one wire into the binding post slot, and release the post. Make sure the wire is securely clamped. Ensure the insulation is not in the grasp of the binding post slot. To prevent a short, ensure the bare wires stay within the binding post slot.

d. Repeat the procedure with the other wire line.

3. *Ring destination.*

a. To ring a destination using a TA-312 field telephone, follow the steps below.

Step	Action
1	Position the selector switch in the LB (local battery) position (figure 1).
2	Position the EXT-INT switch (figure 1) in the INT position for use of the TA-312 handset.
3	Make sure the handset is seated in the retaining cradle.
4	Hold on to the phone with one hand and turn the crank handle three to four complete revolutions.
5	Remove the handset from the retaining cradle and listen for the distant station to answer your call.

b. To ring a destination using a TA-1 field telephone, follow the steps below.

Step	Action
1	Press and release the generator lever (figure 2) firmly about four to five times to signal the distant station.
2	Listen for the distant station to answer.

4. *Perform a communications check.*

a. The distant station will respond to your ring with a reply similar to the one below:

EXAMPLE: (Distant station reply) "Headquarters Company 1/3, this is an unsecured line, may I help you sir."

b. Upon hearing the distant station’s answer to your ring, respond with the following:

EXAMPLE: (Your response) “Headquarters Company 1/3 this is Bravo Company 1/3 line check.”

c. The distant station will respond to your request for a line check by informing you how well your phone is working. After they have communicated to you the status of your line, request a ring back from the distant station in the following manner:

EXAMPLE: (Your request) “Headquarters Company 1/3 give me a ring back on this line.”

d. Standby to adjust the buzzer volume on your field telephone (figures 1 and 2), answer the ring back, and inform them that you are up and operating. This concludes the communications check for field telephones.

5. *Communicate a message.*

a. To communicate a message using a TA-312 field telephone, follow the steps below.

Step	Action
1	Perform a communications check.
2	After determining that your TA-312 field telephone is operating properly, communicate a message by simply speaking directly into the transmitter of the telephone.
3	When finished communicating a message, reconnect the transmitter to the hook switch (figure 1).

b. To communicate a message using a TA-1 field telephone, follow the steps below.

Step	Action
1	Perform a communications check.
2	After determining that your TA-1 field telephone is operating properly, communicate a message by depressing the press-to-talk switch (figure 2) and speaking directly into the transmitter of the telephone.
3	When listening to a distant station or when done communicating a message, release the press-to-talk switch.

6. Perform operator level maintenance.

a. Ensure the telephone set is complete and intact.

b. Ensure the telephone set is properly installed.

c. Ensure the case, panel, connectors, controls, cord, and handset are clean and free of dirt, fungus, or corrosion.

d. Inspect the battery compartment for cleanliness, and ensure there is no foreign matter present (TA-312 only).

e. Check the condition of the batteries (TA-312 only).

f. Ensure the handset seats firmly in the retaining cradle and the retaining cradle springs maintain proper tension (TA-312 only).

g. Inspect the binding posts to ensure the connections are tight.

h. Check the cord on the handset for cracks or breaks.

i. Ensure all control knobs and switches operate properly without binding.

j. Initiate a call and check the operation of the telephone set by requesting a "line check."

k. Report deficiencies and discrepancies to organizational maintenance.

REFERENCE(S):

MCRS 6-22C, *Radio Operator’s Handbook*
TM 11-5805-201-12, *Telephone Sets TA-312/ PT and TA-312A*
TM 11-5805-201-13-40-34P, *Operator’s Manual for the TA-1/PT*

TASK: **MCCS.19.02 (CORE) COMMUNICATE USING AN AN/PRC 119 RADIO**

CONDITION: **GIVEN THE REQUIREMENT.**

STANDARD: **TO DEMONSTRATE UNDERSTANDING PER THE REFERENCES.**

> EVALUATION GUIDELINES TO BE USED DURING TRAINING:
>
> *Condition:* Given an AN/PRC 119 radio, batteries, frequency, and technical manual.
>
> *Standard:* To transmit a message per the references.

PERFORMANCE STEPS:

1. *Install a battery.*

WARNINGS: The lithium battery used with your manpack radio, as shown in figure 1, is hazardous if misused or tampered with before, during, or after discharge. Strictly observe the following precautions to prevent injury to personnel or damage to equipment.

DO NOT heat, incinerate or crush, puncture, disassemble, or otherwise mutilate the battery.

DO NOT short circuit, recharge, or bypasses any internal fuse.

DO NOT store battery in equipment during periods of non-use.

TURN OFF equipment immediately if you feel battery case becoming very hot, hear battery venting (hissing, burping), or smell irritating gas (sulfur dioxide). Remove battery only after it cools, then return it to supply for disposal.

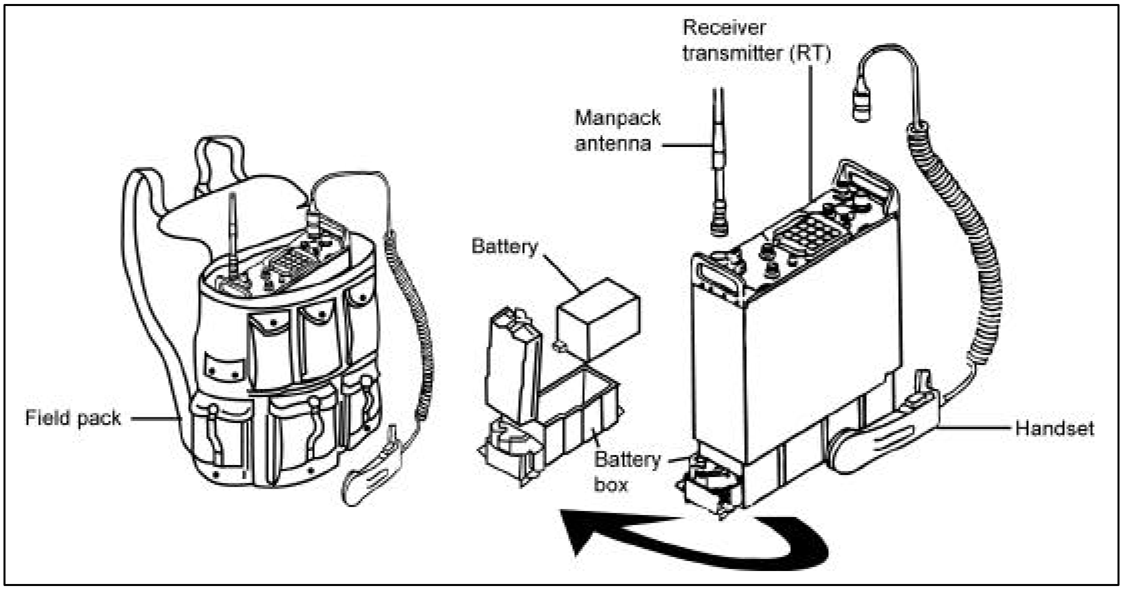


Figure 1

a. Visually inspect battery box for dirt and damage.

NOTE: If the battery has been previously used, note battery life number.

(1) Stand the receiver-transmitter (RT) on front panel guards.

(2) Place the battery box on the RT.

(3) Fasten the latches on the battery box to secure battery in position.

(4) Observe the battery life condition.

NOTE: A date will be recorded on the battery if it has previously been used. If the battery is new, there will be no date recorded.

(5) Write down the number for later entry into the radio.

(6) Place the battery into the battery box as you mate the connectors.

(7) Close the battery box cover.

(8) Fasten the latches to secure battery box cover in position.

(9) Return the radio to the upright position.

(10) Determine if battery is new or used.

IF…	**THEN…**
New battery was installed	Establish battery life cycle by logging in or charting the time battery was installed
Old or used battery was installed	1. Set FCTN to LD 2. Press battery, then clear 3. Enter number recorded on side of battery 4. Press STO 5. Set FCTN to SQ ON

NOTE: Battery is sometimes changed according to unit's SOP.

b. Install hold up battery HUB.

(1) Remove two screws and HUB cover.

(2) Remove HUB.

(3) Install new HUB, inserting flat end (positive) first.

(4) Install HUB cover and two screws.

(5) Tighten screws snug enough to keep moisture out.

2. *Install antenna.*

CAUTION: **DO NOT** use antenna as a handle. Equipment damage will result.

a. Screw antenna whip into antenna base.

b. Hand tighten.

c. Carefully mate antenna base with antenna connector.

d. Hand tighten.

e. Position antenna as needed by bending gooseneck.

3. *Connect handset.*

a. Line up keys on handset connector and AUD/DATA connector.

b. Push handset connector onto AUD/DATA connector and twist right (clockwise) to lock in place.

4. *Turn the radio to the "ON" position.*

a. Locate on/off switch and turn on.

b. Adjust the volume.

5. *Select switch positions.*

- Locate selector switch knob and click switch left or right to change position.

6. *Enter frequency.*

CAUTION: Not performing this step before the operational check can risk radio failure during a mission.

a. Ensure radio is assembled correctly.

b. Ensure routine checks have been accomplished. Check

    (1) Battery physical condition
    (2) Battery electrical condition
    (3) HUB electrical condition
    (4) RT self-test
    (5) Battery life condition
    (6) If FCTN is set to OFF, then move it to STBY and then to SQ ON
    (7) Required load for the correct FH data, COMSEC keys, and CUE and MAN frequencies

c. Stand by for net opening. (NCS will contact you.)

    (1) Verify communication can be established on each net in which you will be operating.
    (2) If you cannot communicate, perform the communication troubleshooting procedure in performance step 7.

7. *Conduct operational check.*

CAUTION: Not performing the operational check can risk radio failure during a mission.

a. Ensure radio is assembled correctly.

b. Ensure proper RDS ICOM fill is loaded into the radio.

c. Perform before mission and routine checks. Check

    (1) Battery physical condition
    (2) Battery electrical condition
    (3) HUB electrical condition
    (4) Receiver-transmitter (RT) self-test
    (5) Battery life
    (6) If FCTN is set to OFF, then move FCTN switch to SQ ON
    (7) Required load for correct FH data, COMSEC keys, and CUE and MAN frequencies

d. Establish a communication check.

(1) Stand by for net opening. (You will be contacted over the assigned net and frequency.)

(a) Verify communication can be established on each operating net.

(b) If you cannot communicate, perform the communication troubleshooting procedures.

e. Troubleshoot problems.

(1) Difficulty communicating: Conduct the following checks before assuming something is wrong with your radio.

(a) Ensure all switches are properly set.

(b) Ensure all cable connections are tight.

(c) Ensure antenna is properly connected and positioned.

(d) Change position to improve communications.

(2) Passive late net entry and CUE and ERF are two methods that can be used to join a net that is already operating.

(a) Passive late entry net: Use this method if you have not heard traffic in some time.

1. Set CHAN to channel having proper preset.

2. Set other switches for normal FH operating positions.

3. Press FREQ.

4. Press SYNC (late entry).

5. Monitor the channel for at least 3 minutes.

6. Contact the net when traffic is heard.

NOTE: When a net signal is received, late net entry is canceled and the "L" disappears from display when FREQ is pressed.

(b) CUE and ERF net entry: Use this method if contact is not made, the passive method fails, and when FH data is needed to operate in the new net.

1. Set COMM/SEC to PT.

2. Set CHAN to CUE.

3. Set RF to HI.

4. Adjust VOL as needed.

5. Press push-to-talk.

6. Repeat substep (e) if necessary.

7. Refer to local SOP for COMSEC procedures.

8. When a reply is heard, the NCS will direct you.

NOTE: If you were unable to communicate on new FH data, set CHAN to position where you last had communication, then wait for the NCS to contact you.

9. Ensure your radio has adequate power (especially man-pack).

10. Determine if another net station is co-located in your area (co-site interference).

(3) Determine if you are being jammed and take appropriate action listed in the table below:

PROBLEM	**POSSIBILITY**	**ACTION**
SIG marker is lit showing a signal higher than LO. You hear no traffic or noise and are not transmitting.	You have a bad handset if you disconnect the handset and the lighted signal disappears (stuck or "hot" mike).	Try to free up the stuck mike by pressing PUSH-TO-TALK two or three times. Remove faulty handset and replace.
	You are being jammed if you set RT FCTN switch to SQ OFF and hear strong static or random noise. Confirm by disconnecting the antenna (MP) or antenna cable (vehicular). The SIG marker will drop and the noise will disappear or be reduced.	Change your tactical location. Try to mask your RT/antenna by placing hills, rocks, or buildings between you and the enemy. Notify your supervisor and prepare a MIJI feeder report.
	You may have a faulty or locked-up RT if you try removing the handset and the antenna (MP) or antenna cable (vehicular) and the SIG marker remains higher than LO.	Set RT FCTN switch to STBY; then to SQ ON. If problem still exists, contact unit maintenance.
SIG marker is lit showing a signal higher than LO. You hear random radio traffic or radio signals.	You have enemy or friendly radio interference.	Set RT FCTN to SQ OFF and listen for radio traffic. Try to identify a friendly callsign (friendly signals). If you can determine that jamming is from an enemy source, change location and use terrain to mask your RT from the enemy jamming source. Switch to a better antenna. If using manpack, switch to vehicular or OE-254. Contact NCS and your supervisor.
SIG marker is lit showing a signal higher than LO. The signal marker may light on and off at regular intervals (pulsing) or in a random cycle. You may or may not hear any noise.	You may have enemy sweep jamming.	Set RT FCTN to SQ OFF. You may hear a very high-pitched noise or static each time the SIG marker lights. Use terrain to mask your RT from enemy's suspected location. Contact NCS and your supervisor.
	You have radio or radar interference.	Symptoms and actions are similar to sweep jamming (above), except that signals will be coming from a friendly source (maybe). Use terrain to mask your RT from suspected source location. Contact NCS and your supervisor.

PROBLEM	POSSIBILITY	ACTION
SIG marker is lit showing a signal higher than LO. The signal marker may light on and off at regular intervals (pulsing) or light steady. There is strong static or noise when you attempt to hear net traffic.	You are being jammed if you disconnect the antenna (MP) or antenna cable (vehicular) and the SIG marker is reduced or drops to LO and the noise is reduced.	Reconnect the antenna. Use terrain to mask your RT from the suspected enemy location. Contact NCS and your supervisor.
	You may be receiving interference from a nearby high power communication system. This is a co-site problem.	If possible, obtain authorization to have the interfering equipment turned off. (This determines if you are receiving interference or if you are being jammed.) Move away from the source of interference by using terrain to mask your RT from the source. Attempt to remotely locate antenna(s) or RTs separating antennas at least 50 meters. Use one RT at a time.
SIG marker is lit showing a signal higher than LO. You hear a constant hiss or background noise in the handset, but no real noise or radio traffic.	There is a compromised or captured RT in your net. The compromised RT is constantly transmitting to act as a jammer.	Press handset PUSH-TO-TALK twice. If voice or data transmissions return, continue to operate. Contact NCS or refer to SOI. Use authentication procedures.
	A stuck mike or bad handset in your net that is locked in the transmit (PUSH-TO-TALK) position.	Press handset PUSH-TO-TALK twice. Contact NCS. Use authentication procedures.
	Your RT has a stuck handset if you speak or blow into the mike and you hear side tone.	Disconnect handset from RT. SIG marker drops to LO or below. Press handset PUSH-TO-TALK several times to free switch. If you reconnect the handset and the SIG marker lights, replace the bad handset with a good one.
Your net is not in silence directive and you haven't heard traffic for a period of time.	Your RT is out of FH sync time.	Attempt to contact NCS or another member two or three times. If unsuccessful, perform passive late net entry. If late net entry is unsuccessful, perform CUE and ERF. Follow NCS direction.
SIG marker steadily flickers. You can communicate, but there is background popping or static when you are receiving. You notice your RT communication range is reduced.	Co-site interference from another radio.	If possible, ask the interfering radio operator to stand by or to reduce RF power. Attempt to move your RT or antenna 50 meters or more. Contact NCS.

8. *Prepare message on paper.*

a. Authenticate a challenge upon entering a NET.

NOTE: You enter the net and are challenged with the letters "FW."

(1) Find the first letter of the challenge on the setline indicator column: "F" on the AKAC-874 as shown in figure 2.

(2) Find the second letter of the challenge to the right on the same line as the set indicator: "W."

(3) Find the reply to the challenge directly below the second letter of the challenge.

(4) Reply to the challenge "FW": "V."

(a) Find F

(b) Right to W

(c) Down to V

NOTE: The table below provides a sample challenge.

LOCATION	**WHAT IS SAID**
YOUR STATION	"K3R, THIS IS G8D, OVER"
DISTANT STATION	"G8D, THIS IS K3R, AUTHENTICATE FW, OVER"
YOUR STATION	"K3R, THIS IS G8D, I AUTHENTICATE V, OVER"
DISTANT STATION	"G8D, THIS IS K3R, ROGER, OUT"

NOTE: If the first letter of the challenge is Y, use setline A for the reply. Using the manpack radio, as shown in figure 1, the reply to "YC" is "P."

b. Initiate a challenge to a new user on a NET.

(1) Authenticate when

(a) Enemy imitates friendly transmissions to create confusion or to influence operations.

(b) Friendly stations are making initial contact or resuming after prolonged interruptions.

(c) A station is receiving a classified message from another station.

(d) A station is requesting that friendly units move.

(e) A station is requesting fire support.

(f) A station is transmitting operating instructions.

(g) The unit SOP requires authentication of any net not covered with crypto equipment.

CAUTION: You are not limited to challenging at the beginning of a call from another station. You may challenge any time you deem it necessary.

c. Challenge a station entering the net.

(1) Randomly select two letters (except "Z").

(2) Determine the reply the other station must provide.

(3) Challenge the station entering the net, using the first table as a guide.

(4) Use a pencil to cross through combinations previously used. Never use the same authentication twice.

d. Encrypt and transmit a plain text message**.**

(1) Encrypt when

(a) Using unsecured/uncovered radio circuits

(b) Sending quantities of supplies over a radio net:

	0	1	2	3	4	5	6	7	8	9
F	OPQR	STU	VWX	YN	AB	CDE	FG	HI	JK	LM
G	NOPQ	RST	UVW	XY	MA	BCD	EF	GH	IJ	KL

(c) Sending friendly grid coordinates over an unsecured net

(d) Sending directions and azimuths of fire

(e) Identifying friendly locations

(f) Sending troop strength information

e. Use the following general rules when encrypting numbers:

(1) Never encrypt more than 15 digits on one setline.

(2) Never send an encryption of numbers and then say what they mean in the clear.

(3) Add zeros in front of single- and double-digit numbers to confuse the enemy.

f. Encrypt numbers (figure 2).

(1) Select a set indicator (two letters randomly selected, except "Z").

EXAMPLE: The radio operator will say, "I set FI."

g. Find the first letter in the set indicator column: "F."

h. Find the second letter on the same line: "I."

i. Find the letter to the right of the second letter: "J."

j. Use line "J" as the setline.

k. Use the setline to encrypt numbers.

AKAC-874

	0	1	2	3	4	5	6	7	8	9
F	OPQR	STU	VWX	YN	AB	CDE	FG	HI	JK	LM
G	NOPQ	RST	UVW	XY	MA	BCD	EF	GH	IJ	KL
H	MNOP	QRS	TUV	WX	YL	ABC	DE	FG	HI	JK
I	LMNO	PQR	STU	VW	XY	KAB	CD	EF	GH	IJ
J	KLMN	OPQ	RST	UV	WX	YJA	BC	DE	FG	HI

Figure 2

l. Use any letter in the group under the number you want to encrypt.

(1) Set indicator: "FI."

(a) Find "F."

(b) Find "I" on the same line.

(c) Go right to the next letter, "J."

(d) Use line "J" as the setline to encrypt.

EXAMPLE: On setline "J," encrypt 584965. For the number 5, you can use any one-letter in-group YJA. For 8, use any one-letter in-group FG. For 4 use any one-letter in-group WX. For 9, use any one-letter in-group HI. For 6, use any one-letter in-group BC. For 5, use any one letter other than the one you've already used from the group YJA.

(e) After the set ("I set FI") use the word "couple" or "shackle" to indicate where the coded numbers begin.

(f) Use the word "uncouple" or "unshackle" to indicate that the coded numbers are complete.

NOTE: The table below includes an example of an encrypted grid coordinate.

LOCATION	WHAT IS SAID
YOUR STATION	"K3R, THIS IS G8D, OVER"
DISTANT STATION	"G8D, THIS IS K3R, SEND MESSAGE, OVER"
YOUR STATION	"K3R, THIS IS G8D, DISPLACE TO GRID, I SET FI, I COUPLE YFWHBA, UNCOUPLE"
DISTANT STATION	"G8D, THIS IS K3R, AUTHENTICATE FW, OVER"
YOUR STATION	"K3R, THIS IS G8D, I AUTHENTICATE V, OVER"
DISTANT STATION	"G8D, THIS IS K3R, ROGER, OUT"

m. Decrypt an encrypted message received.

(1) Decrypt a message using the same procedure as performance step 3**.**

(2) Determine the setline and use the number above the letter group.

(3) Use Greenwich Mean Time with AKAC.

(4) The Marine should know when a challenge is initiated and why.

9. Listen to ensure net is clear.

a. Ensure no unfamiliar sounds are on the net.

b. Avoid interfering with other transmissions.

c. Ensure that no unfamiliar sounds are on the net.

d. Avoid interfering with other transmissions.

10. Contact distant station.

a. Your station callsign is Q7Y and the distant station callsign is F3D.

b. Perform a radio check with the distant station.

(1) F3D THIS Q7Y, RADIO CHECK OVER. Phonetic spelling would look and sound like this: FOX TROT TREE DELLTAH – This is KEH BECK SEV EN YANK EE – Radio check over.

(2) Q7Y THIS IS F3D ROGER OVER. Phonetic spelling would look and sound like this: KEH BECK SEV EN YANK EE– This is FOX TROT TREE DELL TAH- Roger over.

(3) F3D THIS IS Q7Y ROGER OUT. Phonetic spelling would look and sounds like this: FOX TROT TREE DELL TAH- this is KEH BECK SEV EN YANK EE Roger out.

NOTE: Radio checks are conducted when initially establishing communication on a radio net with net control only. There has been no traffic over the radio and this is unusual.

11. *Use phonetic alphabet and numeric pronunciation.*

PHONETIC ALPHABET		PRONUNCIATION	
A = ALFA	N = NOVEMBER	A = AL FAH	N = NO VEM BER
B = BRAVO	O = OSCAR	B = BRAH VOH	O = OSS CAH
C = CHARLIE	P = PAPA	C = CHAR LEE	P = PAH PAH
D = DELTA	Q = QUEBEC	D = DELL TAH	Q = KEH BECK
E = ECHO	R = ROMEO	E = ECH OH	R = ROW ME OH
F = FOXTROT	S = SIERRA	F = FOKS TROT	S = SEE AIR RAH
G = GOLF	T = TANGO	G = GOLF	T = TANG GO
H = HOTEL	U = UNIFORM	H = HOH TELL	U = YOU NEE FORM
I = INDIA	V = VICTOR	I = IN DEE AH	V = VIK TAH
J = JULIET	W = WHISKEY	J = JEW LEE ETT	W = WISS KEY
K = KILO	X = X-RAY	K = KEY LOH	X = ECKS RAY
L = LIMA	Y = YANKEE	L = LEE MAH	Y = YANG KEY
M = MIKE	Z = ZULU	M = MIKE	Z = ZOO LOO

NUMERIC PRONUNCIATION		
1 = WUN	6 = SIX	70 = SEVEN ZERO
2 = TOO	7 = SEV-EN	84 = ATE FO-WER
3 = TREE	8 = ATE	131 = WUN TREE WUN
4 = FO-WER	9 = NIN-ER	500 = FIFE HUN-DRED
5 = FIFE	0 = ZE-RO	1,468 = WUN FO-WER SIX ATE
		7,000 = SEVEN THOU-SAND
		16,000 = WUN SIX THOUSAND

12. *Demonstrate radio procedures through use of procedural words.*

NOTE: When using the radio, certain words may be misunderstood because of similarity in sound to other words. Numbers are important in military messages and must be spoken clearly in telephone and radio conversations. The receiving party exaggerates numeric pronunciations to avoid misunderstanding. Each digit of large numbers is pronounced separately, except in the case of even hundreds and thousands.

a. Use proper radio procedures by using the prowords located in the table below.

b. Use good voice techniques.

c. Listen before transmitting.

d. Speak in a clear, distinctive voice.

e. Speak in natural phrases. Saying one word at a time makes it difficult to understand what is being said.

f. Transmit three to four words at a time and allow the distant station time to copy your message.

CAUTION: Do not key the handset for more than 3 seconds at each transmission. Prolonged transmissions enable the enemy to locate your station using direction-finding equipment. Keep your transmissions short and to the point.

PROCEDURAL WORD	MEANING
ALL AFTER…………………………..	The part of the message to which I refer is all of that which follows.
ALL BEFORE………………………...	The part of the message to which I refer is all of that which precedes.
AUTHENTICATE……………………	The station called is to reply to the challenge that follows.
AUTHENTICATION IS……………...	The transmission authentication of this message is __________________.
BREAK………………………………	I hereby indicate the separation of the text from other parts of the message.
CALLSIGN…………………………...	The group that follows is a callsign.

PROCEDURAL WORD	MEANING
CORRECT………………………	You are correct, or what you have transmitted is correct.
CORRECTION…………………	An error has been made in this transmission. Transmission will continue with the last word correctly transmitted. An error has been made in this transmission (or message indicated). The correct version is _________. That which follows is a corrected version in answer to your request for verification.
DISREGARD THIS TRANSMISSION OUT………………………………	This transmission is in error. Disregard it. This proword shall not be used to cancel any message that has been completely transmitted and for which receipt or acknowledgement has been received.
DO NOT ANSWER………………	Stations called are not to answer this call, receipt for this message, or otherwise to transmit in connection with this transmission. When this proword is employed, the transmission shall be ended with the proword "OUT."
EXEMPT…………………………	The addressees immediately following are exempted from the collective call.
FIGURES…………………………	Numerals or numbers follow.
FLASH……………………………	Precedence FLASH. Flash precedence is reserved for alerts, warnings, or other emergency actions having immediate bearing on national, command, or area security (e.g., presidential use; announcement of an alert; opening of hostilities; land, air, or sea catastrophes; intelligence reports on matters leading to enemy attack; potential or actual nuclear accident or incident; implementation of services unilateral emergency action procedures).
FROM………………………………	The address designator immediately following indicates the originator of this message.
GROUPS……………………………	This message contains the number of groups indicated by the numeral following.
I AUTHENTICATE………………....	The group that follows is the reply to your challenge to authenticate.
IMMEDIATE………………………	Immediate precedence is reserved for vital communications that have an immediate operational effect on tactical operations, directly concern safety or rescue operations, and affect the intelligence community operational role (e.g., initial vital reports of damage due to enemy action; land, sea, or air reports that must be completed from vehicles in motion such as operational mission aircraft; intelligence reports on vital actions in progress; natural disaster or widespread damage; emergency weather reports having an immediate bearing on mission in progress; emergency use for circuit restoration; use by tactical command posts for passing immediate operational traffic).
INFO…………………………………	The addresses immediately following are addressed for information.
I READ BACK………………………	The following is my response to your instructions to read back.
I SAY AGAIN……………………….	I am repeating transmission or part indicated.
I SPELL………………………………	I shall spell the next word phonetically.
I VERIFY…………………………….	That which follows has been verified at your request and is repeated. To be used only as a reply to VERIFY.
MESSAGE……………………………	A message, which requires recording, is about to follow. Transmitted immediately after the call. (This proword is not used on nets primarily employed for conveying messages. It is intended for use when messages are passed on tactical or reporting nets.)
MORE TO FOLLOW…………………	Transmitting station has additional traffic for the receiving station.
OUT……………………………………	This is the end of my transmission to you and no answer is required.
OVER………………………………….	This is the end of my transmission to you and a response is necessary. Go ahead; Transmit.
PRIORITY…………………………….	Priority precedence is reserved for calls that require prompt completion for national defense and security, the successful conduct of war, or to safeguard life or property, and do not require higher precedence (e.g., reports of priority land, sea, or air movement; administrative, intelligence, operational or logistic activity calls requiring priority action; calls that would have serious impact on administrative, intelligence, operational or logistic activities if handled as a ROUTINE call). Normally, PRIORITY will be the highest precedence that may be assigned to administrative matters for which speed of handling is of paramount importance.

PROCEDURAL WORD	MEANING
RADIO CHECK………………………	What is my signal strength and readability? In other words, how do you read (hear) me?
READ BACK………………………….	Repeat this entire transmission back to me exactly as received.
RELAY (TO)………………………	Transmit this message to all addressees (or addressees immediately following this proword). The address component is mandatory when this proword is used.
ROGER……………………………….	I have received your last transmission satisfactorily.
ROUTINE…………………………….	Routine precedence is reserved for all official communications that do not require flash, immediate, or priority precedence.
SAY AGAIN………………………….	Repeat all of your last transmission. Followed by identification data means "Repeat ______ (portion indicated)".
SILENCE……………………………..	Cease transmissions on the net immediately. (Repeated three or more times.) Silence will be maintained until lifted. (When an authentication system is in force, the transmission imposing silence is to be authenticated.)
SILENCE LIFTED……………………	Silence is lifted. (When an authentication system is in force, the transmission lifting silence is to be authenticated.)
SPEAK SLOWER…………………….	You are transmitting too fast. Slow down.
THIS IS……………………………….	This transmission is from the station whose designation immediately follows.
TIME………………………………….	That which immediately follows is the time or date-time group of the message.

13. *Perform operator level maintenance.*

a. Inspect the equipment.

(1) Ensure the equipment SL3 is complete.

(2) Check all major components for damage and serviceability.

(a) Receiver-transmitter

(b) Battery box

(c) Antennas and support bases

(d) Harness and accessory bag

(e) Headset or handset

b. Clean the equipment.

(1) Inspect the exterior of the radio set.

(2) Clean the external surface by removing dust, dirt, grease, salt, and fungus.

c. Remove all dust and loose dirt with a clean rag and a general-purpose brush.

d. Clean the audio connector pins on the radio and handset with a rubber eraser.

e. Perform operation checks.

(1) Conduct inventory. Make sure all parts are present.

(2) Check the accessories for cleanliness and serviceability using the memory aid **FITCAL**.

(a) **F**eel. Physically touch and inspect the radio set and its accessories.

(b) **I**nspect. Visually inspect gear for cracks or corrosion.

(c) **T**ighten. Tighten all connectors by hand and make sure all screws are tight.

(d) **C**lean. Clean with brushes and rags.

(e) **A**djust. Adjust all controls and knobs to ensure serviceability.

(f) **L**ubricate. Lubricate rubber boots and handset cords with silicone to prevent dry rot.

f. Report any discrepancies.

REFERENCE(S):

MCRP 6-22C, *Radio Operator's Handbook*
TM 11-5820-890-10-6, *SINCGARS ICOM Ground Radios Pocket Guide*
TM 11-5820-890-10-8, *SINCGARS Operators Manual*

TASK: **MCCS.20.01 (CORE) IDENTIFY NATO NBC MARKERS**

CONDITION: **GIVEN NATO NBC MARKERS.**

STANDARD: **TO ACHIEVE THE PERFORMANCE STEPS PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided with a locally manufactured or standard NBC marking kit, and sufficient data to properly complete a contamination marker.

Standard: The Marine must state the shape, colors, and purpose of the standard NBC contamination markers provided. Based on scenario provided, he will select the appropriate marker and record necessary information on the front side of the marker.

PERFORMANCE STEPS:

1. *Identify the sign for chemical materials.*

a. The contamination marker for chemical materials is illustrated in figure 1.

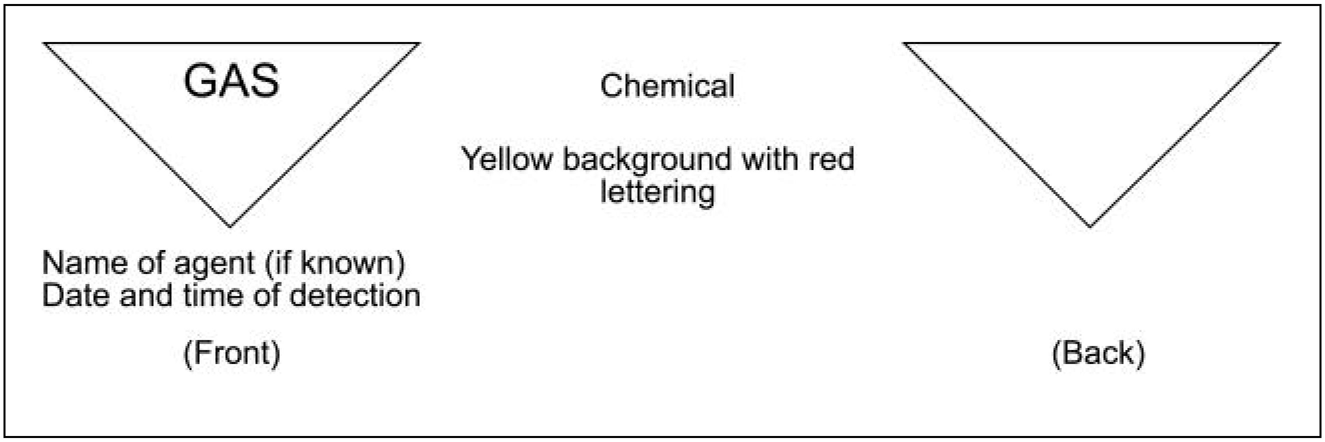

GAS
Chemical
Yellow background with red lettering
Name of agent (if known)
Date and time of detection
(Front)
(Back)

Figure 1

b. Indicate the shape of the marker - triangle.

c. Indicate the color of the marker - yellow background with the word "GAS" printed in red.

d. Indicate the purpose of the marker - mark areas of detected chemical contamination.

e. Indicate the information to be recorded on the front side of the marker - name of agent (if known), and date and time of detection.

2. *Identify the sign for biological materials.*

a. The contamination marker for biological materials is illustrated in figure 2.

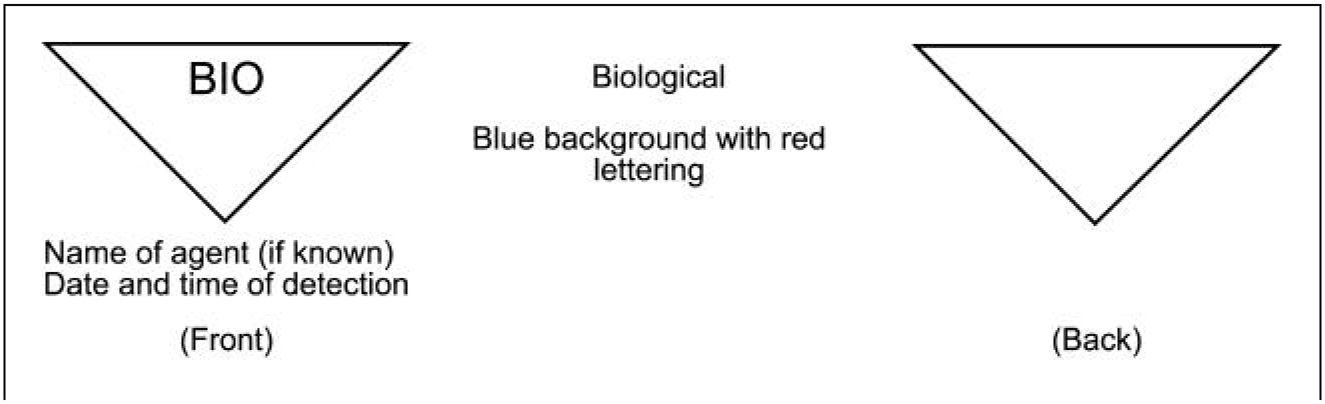

BIO
Biological
Blue background with red lettering
Name of agent (if known)
Date and time of detection
(Front)
(Back)

Figure 2

b. Indicate the shape of the marker - triangle.

c. Indicate the color of the marker - blue background with the word "BIO" printed in red.

d. Indicate the purpose of the marker - mark areas of detected biological contamination.

e. Indicate the information to be recorded on the front side of the marker - name of agent (if known), and date and time of detection.

3. *Identify the sign for radiological materials.*

a. The contamination marker for radiological materials is illustrated in figure 3.

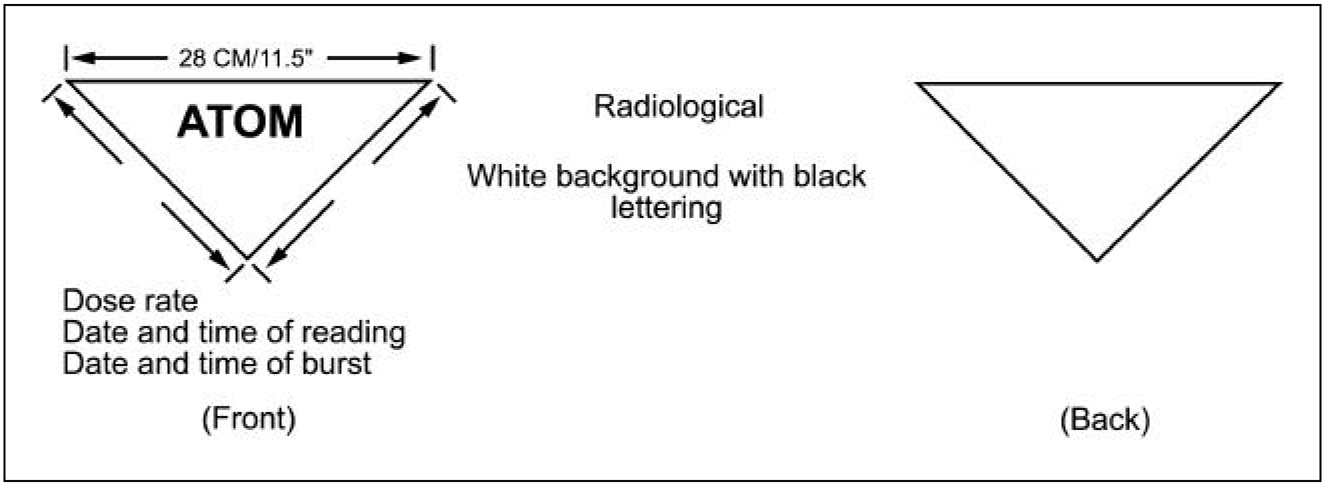


Figure 3

b. Indicate the shape of the marker.

c. Indicate the color of the marker - white background with the word "ATOM" printed in black.

d. Indicate the purpose of the marker - mark areas of detected radiological contamination.

e. Indicate the information to be recorded on the front side of the marker - name of agent (if known), and date and time of detection.

4. *Identify the sign for chemical minefield materials (unexploded mines).*

a. The contamination marker for chemical minefield materials is illustrated in figure 4.

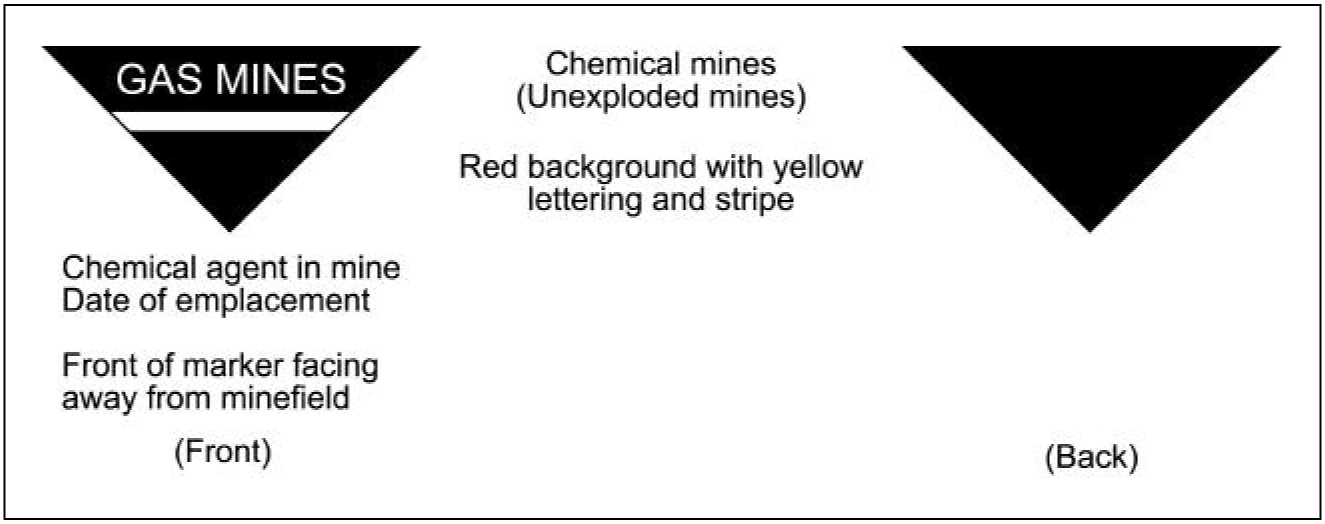


Figure 4

b. Indicate the shape of the marker - triangle.

c. Indicate the color of the marker - red background with the words "GAS MINES" printed in yellow.

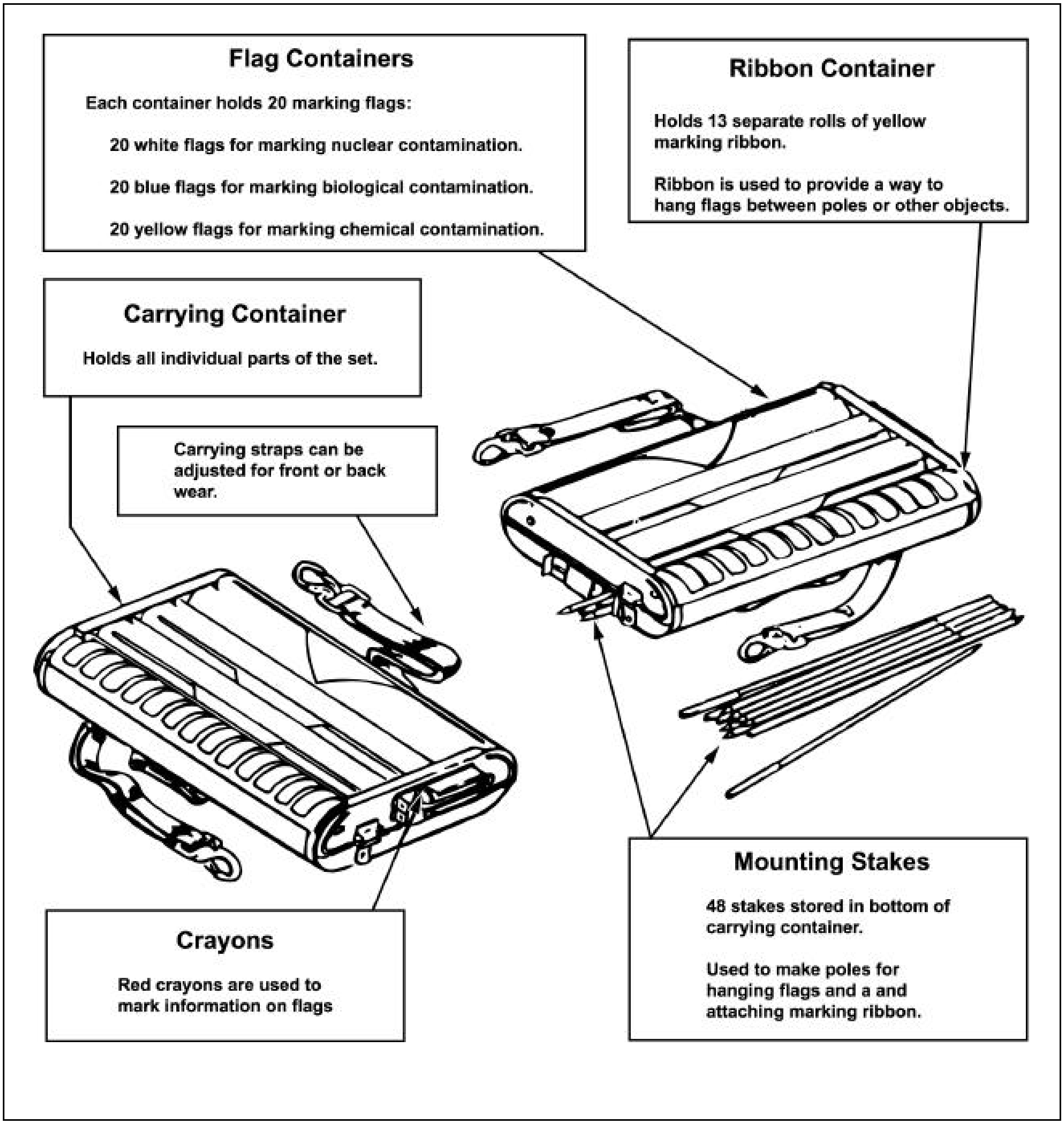
d. Indicate the purpose of the marker - mark areas of chemical mine emplacement.

e. Indicate the information to be recorded on the front side of the marker - name of agent, and date of emplacement.

NOTE: Contamination markers are placed facing away from the contaminated area or minefield.

WARNING: When coming upon a marker with no writing or marking on the side you are facing, stop breathing, then don and clear the field protective mask. Possibly, you have walked through the contaminated area.

f. The NBC Marking Kit content is identified in figure 5.



Flag Containers

Each container holds 20 marking flags:

20 white flags for marking nuclear contamination.

20 blue flags for marking biological contamination.

20 yellow flags for marking chemical contamination.

Ribbon Container

Holds 13 separate rolls of yellow marking ribbon.

Ribbon is used to provide a way to hang flags between poles or other objects.

Carrying Container

Holds all individual parts of the set.

Carrying straps can be adjusted for front or back wear.

Crayons

Red crayons are used to mark information on flags

Mounting Stakes

48 stakes stored in bottom of carrying container.

Used to make poles for hanging flags and a and attaching marking ribbon.

Figure 5

REFERENCE(S):

MCRP 3-37.2A, *Chemical and Biological Contamination Avoidance*

TASK: **MCCS.20.02 (CORE) MAINTAIN THE M40 FIELD PROTECTIVE MASK**

CONDITION: **GIVEN AN M40 SERIES FIELD PROTECTIVE MASK WITH HOOD AND CARRIER, SPARE PARTS, AND CLEANING MATERIALS.**

STANDARD: **TO MEET SERVICEABILITY STANDARDS PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine will be provided with an M40 series field protective mask, spare parts including a replacement filter, and authorized cleaning materials.

Standard: The Marine will inspect, disassemble, clean, and replace worn or unserviceable parts of the M40 series field protective mask using prescribed replacement parts, procedures, and cleaning materials/solutions. The Marine must identify each part of the field protective mask, and explain procedures, techniques, and authorized cleaning agents for the mask.

PERFORMANCE STEPS:

NOTE: The M40 field protective mask (figure 1) is designed to protect the wearer from field concentrations of chemical and biological agents. The mask consists of a faceblank, a filter canister (which is used to cleanse contaminated air), dual voicemitter assemblies, inlet and outlet valves, and a water drinking system.

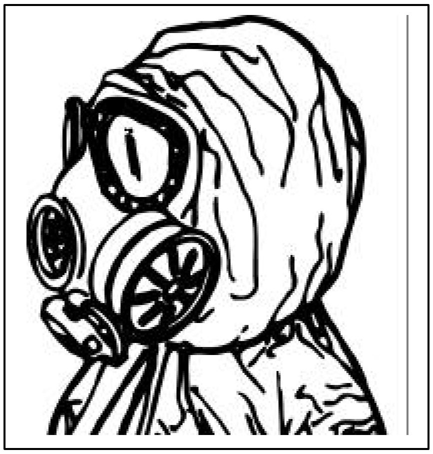


Figure 1

1. *Disassemble the mask.*

a. Unscrew the canister counterclockwise and remove it from the facepiece assembly (figure 2).

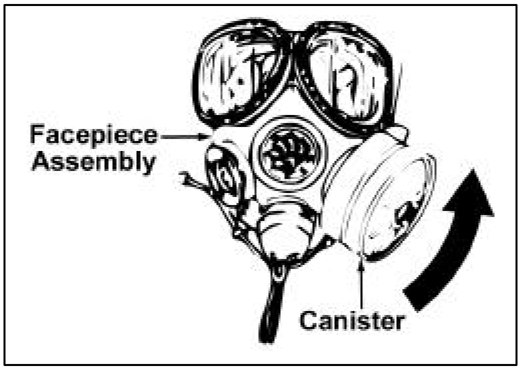


Figure 2

b. Remove outserts from the facepiece (figure 3).

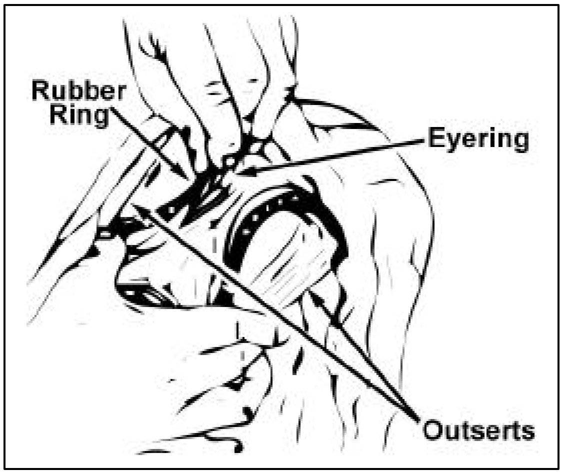


Figure 3

(1) Lift the rubber ring of outsert from behind the eyering.

(2) Remove the outsert from the facepiece.

(3) Repeat steps 1. b. (1) and (2) for the other outsert.

c. Remove the hood from the facepiece.

CAUTION: Be very careful in removing hood. The hood could snag on the buckles of head harness and tear.

(1) Unfasten the hook and pile fasteners on the hood (figure 4).

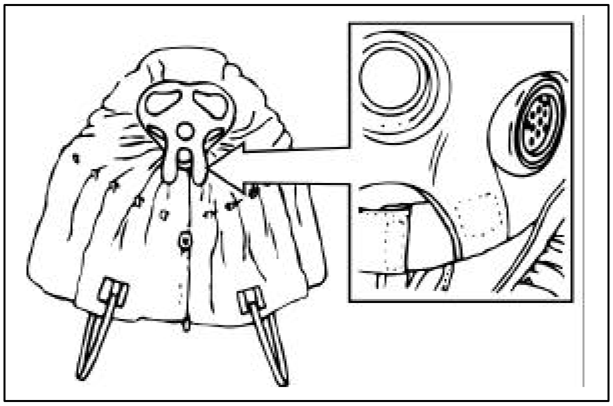


Figure 4

(2) Starting with either eyelens, stretch the eyelens openings and remove from eyelenses (figure 5).

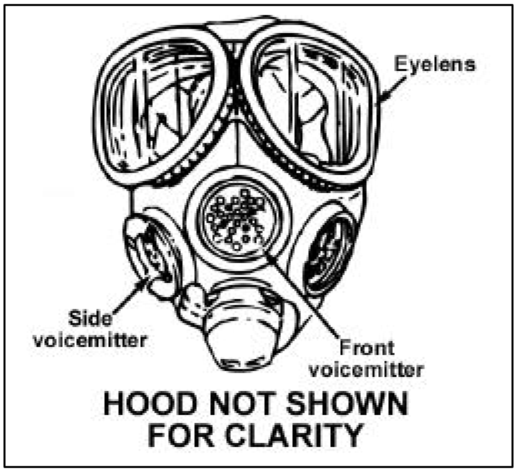


Figure 5

(3) Stretch the hood and pull away from the side voicemitter on facepiece.

(4) Carefully remove the facepiece from inside of hood.

2. *Clean the mask.*

NOTES: When cleaning the facepiece, use only potable water.

a. The following items are needed to clean the facepiece:

(1) Alcohol

(2) Lens brush

(3) Cheesecloth

(4) Pail

(5) Plastic polish

(6) Non-medicated/Non-abrasive soap

CAUTION: Do not allow canister to become wet. A wet canister is useless.

b. Clean canister threads to make sure there is no dirt, sand, etc. present.

c. Pull quick disconnect coupling out of protective pouch on front of outlet valve cover.

d. Remove outlet valve cover as follows:

(1) Grasp tab at bottom of outlet valve cover and lift bottom portion of outlet valve cover from outlet valve assembly.

(2) Pull sides of outlet valve cover away from groove around outlet valve assembly until outlet valve cover is detached.

(3) Disconnect outlet valve cover from flanges on top of outlet valve.

e. If necessary, remove greasy or oily substances from your facepiece with alcohol and clean cheesecloth.

f. Clean your facepiece and hood inside and out using clean cheesecloth, soap, and a pail. Dip the cheesecloth in warm, soapy water and wring cheesecloth almost dry. A soft brush may also be used.

g. Rinse by wiping with a clean cheesecloth that has been dipped in warm, clear water and wrung almost dry.

h. Dry facepiece, hood, and outserts with a cheesecloth or allow to air dry.

CAUTION: Ensure all components are entirely dry before stowing.

i. To clean and polish eyelenses and both sets of outserts, use polish.

j. Blow on inlet valve disk to make sure it is not stuck and is not dirty.

k. Remove contents from carrier.

WARNING: Do not allow dirt to remain in carrier. Foreign material in carrier may get into valves, causing them to leak.

CAUTION: Abrasive materials in carrier will scratch lenses.

l. Shake carrier upside down to remove dirt and foreign matter.

CAUTION: Do not soak carrier, and do not use hot water, bleach, or detergent to clean it. These will reduce water and mildew resistance of carrier.

m. Soak brush in cold water.

n. Shake brush to remove excess water.

o. Clean carrier with brush and cool water.

CAUTION: Ensure carrier is entirely dry before stowing components.

3. Inspect the mask.

a. Remove and check the filter canister (figure 6). If necessary, replace it in accordance with your local SOP.

(1) Unscrew the canister counterclockwise and remove it from the facepiece assembly.

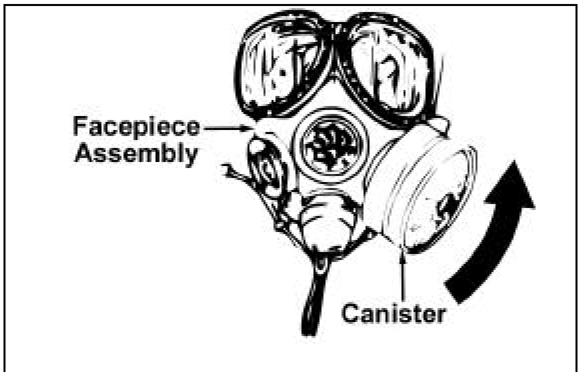


Figure 6

(2) Inspect seams for cracks, dents, or holes.

(3) Check air inlet to ensure it is not clogged with dirt or debris.

(4) Check threads and connectors on the canister for damage.

(5) Check the mating surface for dirt.

(6) Shake canister and listen for signs of loose absorbent particles.

(7) Check for water damage (any moisture will ruin the filter).

b. Remove eyelens outserts (figure 7) and check eyelenses and eyerings.

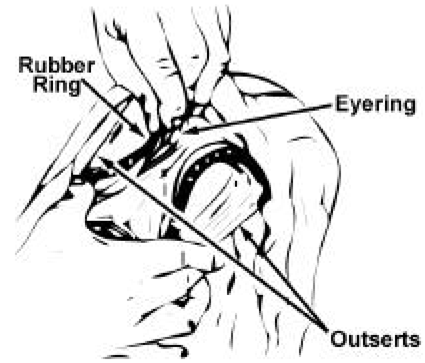


Figure 7

(1) Remove outserts from the facepiece.

  (a) Lift the rubber ring of outsert from behind the eyering.

  (b) Remove the outsert from the facepiece.

  (c) Repeat steps 3. b. (1) (a) and (b) for the other outsert.

(2) Check eyelenses (figure 8) for conditions such as cracks, cuts, scratches, or discoloration, such as yellowing, which can affect vision.

(3) Check eyerings for distortion or corrosion.

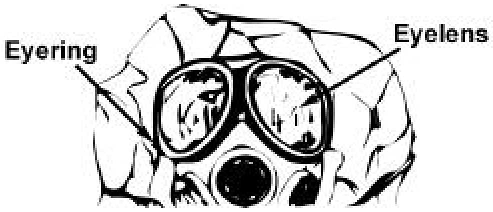


Figure 8

(4) Check both sets of the eyelens outserts (figure 9) for breaks or distortion that can affect your vision.

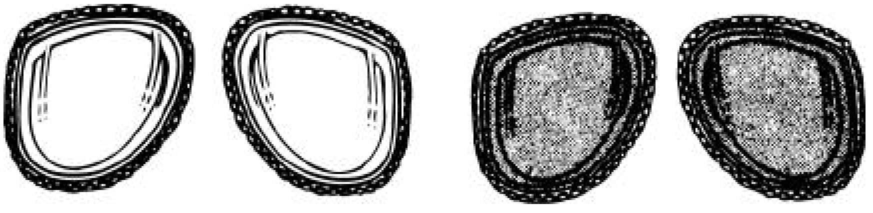


Figure 9

c. Remove and examine the hood for defects.

CAUTION: When examining hood, avoid open flames and exposed light bulbs.

(1) Remove the hood from the facepiece.

(a) Remove the canister (Step 1. a. (1)).

(b) Remove outserts (Step 1. b. (1) (a) and (b)).

(c) Unfasten the hook and pile fasteners on the hood (figure 10).

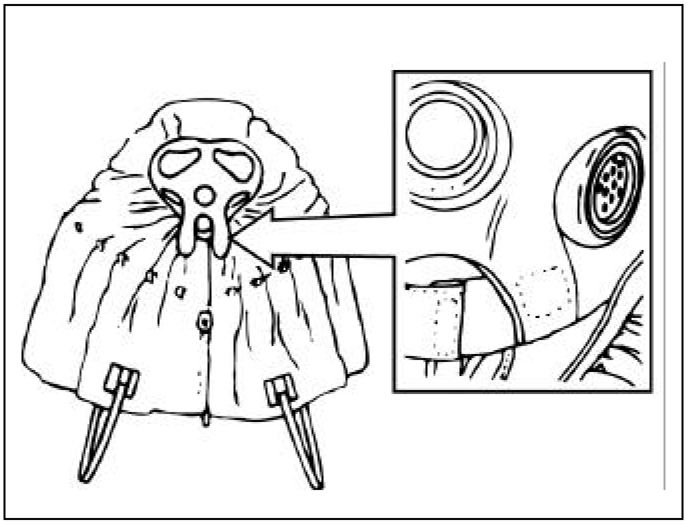


Figure 10

(2) Examine the hood for cuts, holes, and tears.

NOTE: Needle holes at the seams are acceptable.

(3) Check the fabric to ensure it is not sticky or gummy.

(4) Check the fabric to ensure there is no peeled or worn coating.

(5) Check straps, cord and hardware for the following:

(a) Zippers torn, broken, or inoperative.

(b) Loose stitching on hooks and fasteners.

(c) Dirt in fasteners or clogged hooks.

(d) Frays.

d. Check the facepiece assembly (figure 11).

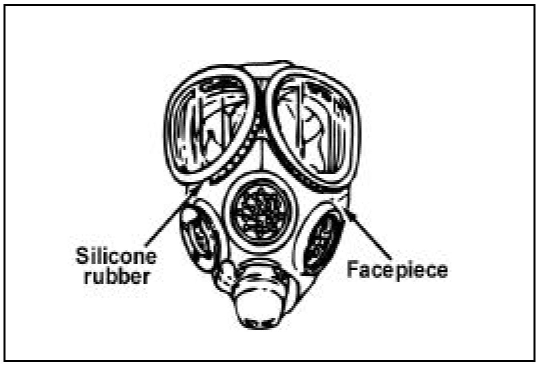


Figure 11

(1) Check inside surfaces of the facepiece for dirt, mud, and greasy or oily substances.

(2) Inspect the facepiece for holes, tears, and splits by holding it in front of a light source.

(3) Look closely at edges of the facepiece for soft or sticky spots, which allow air to enter the facepiece.

(4) Check the silicone rubber next to eyelenses to be sure eyelenses will not pull away from the facepiece; check the facepiece housings to be sure the silicone is not pulling away.

e. Don the facepiece to check head harness (figure 12) for the following:

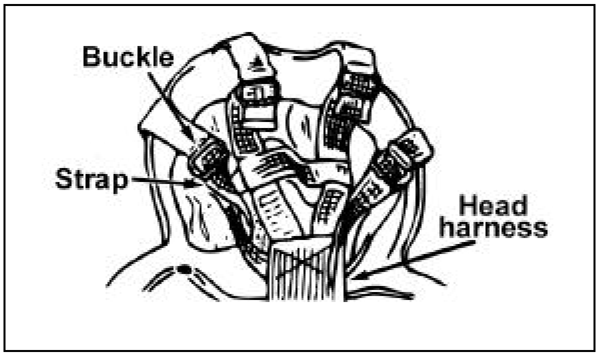


Figure 12

(1) Loss of elasticity

(2) Deterioration, such as mildew or fraying

f. Check for dirt.

g. Ensure that buckles are not bent, cracked, or corroded.

h. Pull on head harness straps and make sure buckles hold straps tight.

i. Check for missing or broken buckles.

j. Check the straps for cuts, tears, missing parts, or deterioration such as mildew or fraying.

k. Grasp the tab at the bottom of outlet valve cover (figure 13) and lift the bottom portion of the outlet valve cover. Make sure the outlet valve disk is present and not curled or distorted, nicked, torn, ripped, or obstructed by debris.

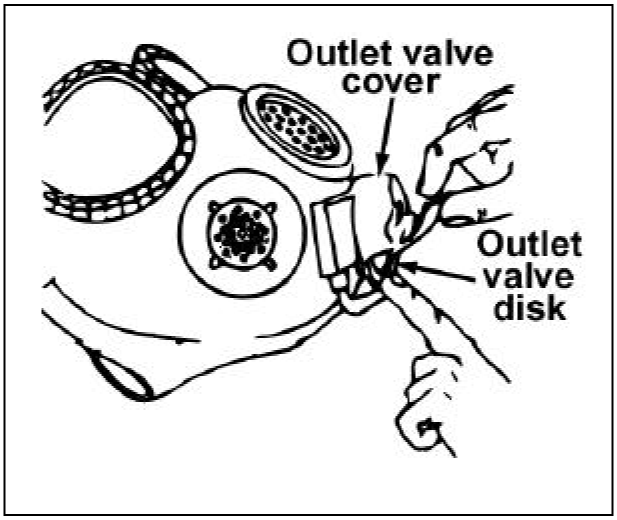


Figure 13

l. Rotate the outlet valve disk to make sure it is not sticking.

WARNING: The field protective mask will not function if the outlet valve disk is missing or damaged. This means there is no protection from agents in a toxic atmosphere.

m. Smooth the outlet valve disk to lie flat on the outlet valve seat.

(1) Check the outlet valve seat for dirt.

(2) Check the outlet valve cover for cuts, tears, or holes.

(3) Check the inside of the outlet valve cover for dirt or moisture; if any, wipe them off using a soft, clean, and dry cloth.

n. Examine internal and external-drinking devices for cracks or cuts (figure 14).

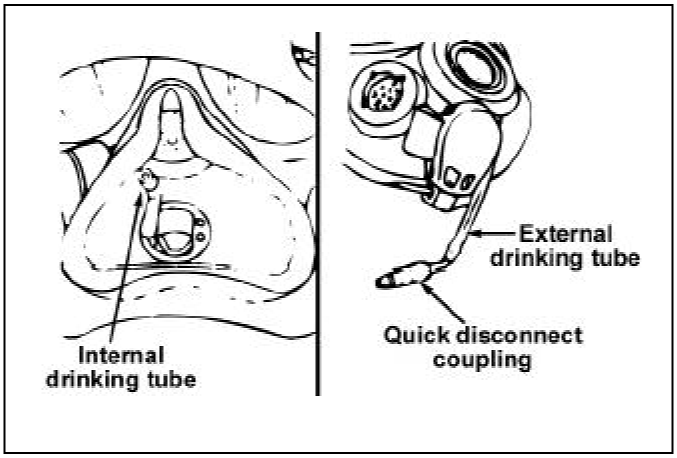


Figure 14

(1) Check the internal drinking tube for proper alignment.

(2) Check the external drinking tube for solid connections.

(3) Check the drinking system to ensure that it is not clogged. Connect the M1 canteen cap and blow air through system.

(4) Check the drinking system to ensure that it does not leak.

(a) Grasp the internal drink tube between your teeth.

(b) Pull quick disconnect coupling (figure 15) out of retainer.

(c) Blow into the internal drink tube. If resistance is not felt, the drinking system may be leaking.

WARNING: If the drinking system leaks during field operations, pinch the external drink tube where it connects to the outlet valve body to prevent the inhalation of agent vapors until a replacement mask is obtained or the wearing of the mask is no longer required.

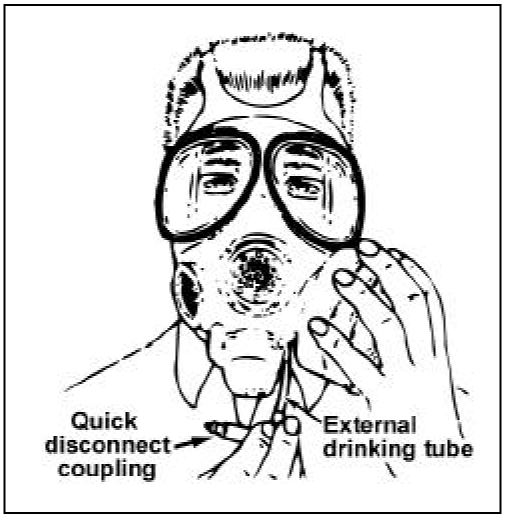


Figure 15

(d) Grasp the internal drink tube between teeth and attempt to draw in air through the drinking system. If you are able to draw in air, you have a faulty internal or external drink tube.

(e) Repair or replace the mask as soon as possible.

(f) Notify unit NBC NCO and exchange mask as soon as possible.

o. Check airflow deflector.

(1) Ensure that the airflow deflector (figure 16) is securely mounted inside the facepiece.

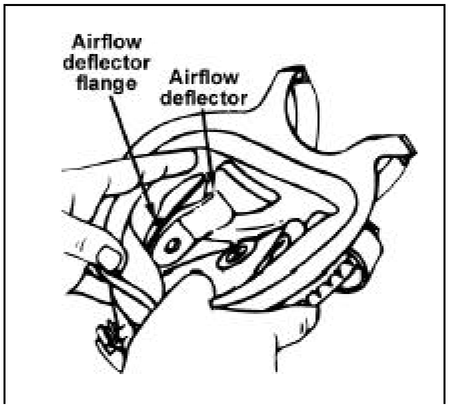


Figure 16

(2) Ensure that both flanges on the airflow deflector are in the mounting holes of the facepiece and are not broken.

(3) Check the mounting holes for cuts or tear.

NOTE: Only the unit NBC section should change canister sides.

p. Check the inlet valve disk and the valve body (figure 17).

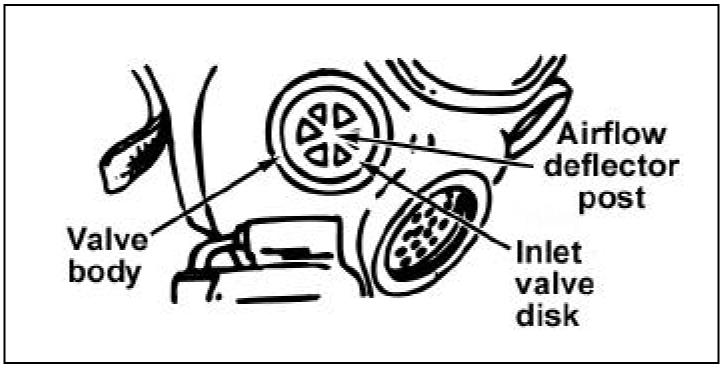


Figure 17

(1) Ensure that the inlet valve disk and the valve body are present and mounted properly on post of airflow deflector. Ensure that the valve disk is free of the valve body.

(2) Blow on inlet valve disk to make sure it is not stuck to valve body.

(3) Check inlet valve disk for cuts, holes, or tears.

(4) Check for dirt or debris on the inlet valve disk.

q. Check the nosecup assembly.

(1) Ensure that the nosecup (figure 18) and nosecup valve seats are free of dirt, cracks, cuts, and holes.

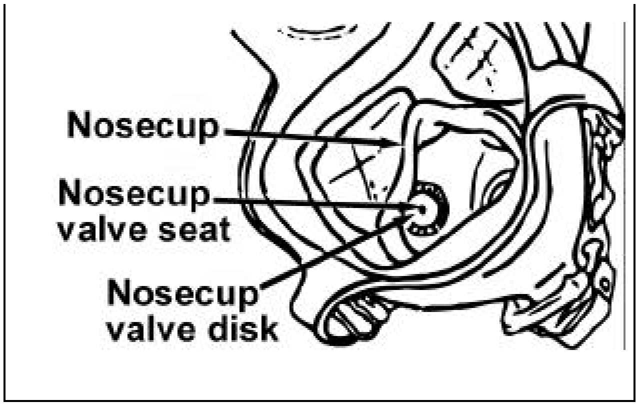


Figure 18

(2) Rotate the nosecup valve disks to ensure that they are not stuck.

(3) Ensure that nosecup valve disks are not curled or torn.

(4) Ensure that nosecup valve disks are seated on the inside of the nosecup.

(5) Ensure that the nosecup is not pulled away from the back of the front voicemitter housing.

(6) Gently try to pull nosecup away from the front voicemitter housing to make sure nosecup is held securely.

r. Inspect the voicemitters (figure 19).

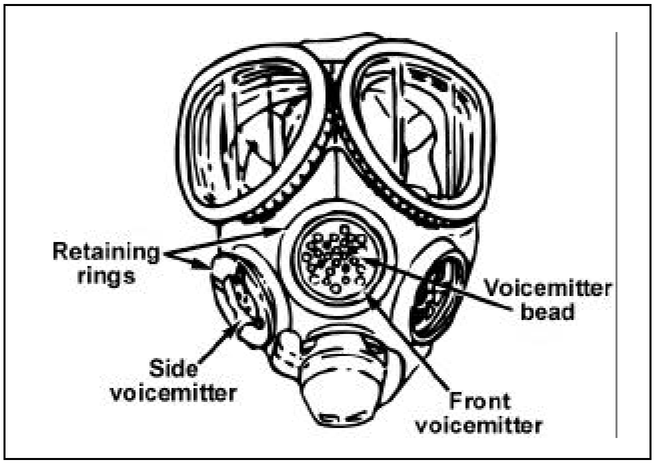


Figure 19

(1) Check retaining rings on the front and side voicemitters for corrosion, crack, or nicks.

(2) Try to tighten the retaining rings by hand to check for looseness.

(3) Check front voicemitter and side voicemitter for dents, cracks, or punctures.

(4) Ensure that the four beads in the center of each voicemitter are facing outward.

s. Check the mask carrier (figure 20).

Figure 20

(1) Empty the carrier and check for dirt, sharp edges, torn straps, or missing hardware.

(2) Check for unauthorized markings such as pencil or pen markings on the carriers, with the exception of markings that note the size or model number to reflect a true description of the mask inside. No other markings are authorized.

(3) Ensure that the hook and pile (Velcro) fasteners are secure on the flap and not dirty; if dirty, clean them with a stiff bristle brush.

(4) Check for mildew, solvents, or abrasive materials that may damage the facepiece.

(5) Check seams for broken stitches.

t. Inspect the waterproof bag (figure 21).

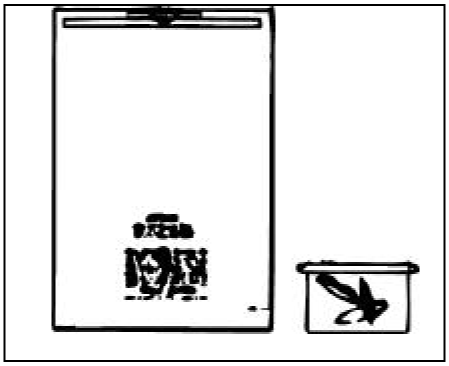


Figure 21

(1) Check waterproof bag for cracks, tears, holes, and brittleness.

(2) Check that rubber bands are not sticky, broken, or brittle.

u. Inspect optical inserts (figure 22).

- Inspect for broken lens, frame, or insert disconnected from facepiece.

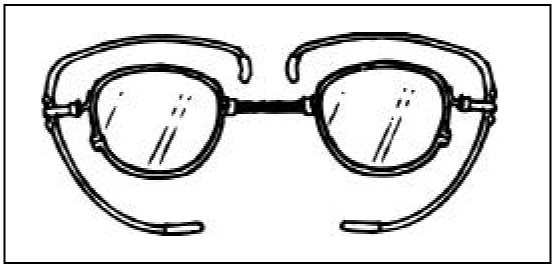


Figure 22

WARNING: DO NOT wear contact lenses with the mask. Toxic agents may lodge under the lenses and cause permanent damage to the retina.

4. *Replace defective parts.*

a. Replace defective parts noted during inspection of mask and accessories in accordance with unit NBC SOP.

b. Notify NBC NCO or officer of all defects and maintenance requirements not authorized in TM 3-4240-300-10-1.

c. If the required tools are not available, or if a TM 3-4240-300-10-1 procedure says to, contact unit NBC personnel.

d. Canister replacement criteria: In a Combat Zone, Rapid Deployment Assignment (24 hours or less), or special Mission (e.g., Explosive Ordnance Disposal (EOD), Technical Escort, Chemical or Nuclear Activated Response Teams, Surety Sites), notify unit maintenance if one or more of the following conditions exist:

(1) Canister has been immersed in water.

(2) Canister has splits or cuts, or a bent or split threaded connector.

NOTE: Dents, less than ¼ inch deep, not on edge of seal, will not impair performance of canister.

(3) Canister has been crushed.

(4) Excessive resistance to breathing can be felt and inspection shows that canister is clogged with foreign matter.

(5) If, after removing facepiece, you see charcoal on your face.

(6) When unit commander directs replacement of canister.

(7) When SB 3-30-2 reports the filter lot as unserviceable.

(8) As soon as possible after each confirmed biological/chemical attack or every 30 days after initiation to toxic chemical operations as a minimum. This is normally accomplished during MOPP gear exchange.

e. All other units not covered in 4. b. must replace canister if one or more of the following conditions exist:

(1) Canister has been immersed in water.

(2) Canister has splits or cuts, or a bent or split threaded connector.

NOTE: Dents, less than ¼ inch deep, not on edge of seal, will not impair performance of canister.

(3) Canister has been crushed.

(4) Excessive resistance to breathing can be felt.

(5) Inspection shows that canister is clogged with foreign matter.

(6) If, after removing facepiece, you see charcoal on your face.

(7) When SB 3-30-2 reports the filter lot as unserviceable.

f. In tactical combat situations, dispose of contaminated or uncontaminated canisters by crushing and burying the canisters under at least 6 inches of earth.

g. In peacetime, turn in used canisters in accordance with unit NBC SOP.

5. Assemble the mask.

a. Unfold and unzip the hood and lay it flat.

b. Unfasten underarm straps.

c. Unfasten hook and pile fasteners on hood.

d. Insert facepiece inside hood and position the outlet valve cover in the hole at the bottom of the facepiece portion of the hood.

e. Align front voicemitter on facepiece with front voicemitter opening on hood and stretch hood over front voicemitter.

CAUTION: Avoid over-stretching holes in the hood facepiece, or hood fabric could tear.

f. Stretch openings in hood over sideport and side voicemitter on facepiece.

g. Stretch eyelens openings in hood over eyelenses on facepiece by pulling hood fabric along sewn seams and bending facepiece at eyelenses.

h. Install canister.

(1) Insert canister into side port of face piece.

(2) Tighten canister hand tight by turning clockwise.

i. Fasten hook and pile fasteners.

j. Install outserts.

NOTE: Be sure to install the right outsert on the right eyelens and the left outsert on the left eyelens.

(1) Fold rubber ring forward all around edge of outsert.

    (2) Lay outsert over eyering and turn rubber ring down all around eyering.

    (3) Repeat steps (1) and (2) for other outsert.

6. Report any discrepancies to unit leader.

a. Report all discrepancies in accordance with unit NBC SOP.

b. Canister sides should be worked on only by unit NBC personnel.

REFERENCE(S):

TM 3-4240-300-10-1, *Operator's Manual for Chemical-Biological Mask: Field, M40*

TASK: **MCCS.20.03 (CORE) DON THE M40 FIELD PROTECTIVE MASK WITH HOOD**

CONDITION: **GIVEN A TACTICAL ENVIRONMENT, AN M40-SERIES FIELD PROTECTIVE MASK WITH HOOD AND CARRIER, AND AN NBC ALERT OR AN ORDER TO MASK.**

STANDARD: **WITHIN NINE SECONDS AND ADJUST THE HOOD WITHIN SIX SECONDS OF THE ISSUANCE OF THE ALARM OR ORDER PER THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided an M40 series field protective mask with hood, with a recognizable nuclear, biological, chemical (NBC) alarm, or an order to mask.

Standard: The Marine must recognize standard NBC alarms and take immediate action. He or she must stop breathing, don and clear the field protective mask within 15 seconds, and sound the alarm to warn fellow Marines.

Administrative Note: To improve instructional value, certain illustrations do not include the protective hood which is attached to the mask. Always use protective hoods with all field protective masks, particularly when conducting any NBC training or in a combat NBC environment.

GENERAL INFORMATION:

Marines will wear the field protective mask with the hood attached under usual NBC conditions. However, the mission oriented protective posture (MOPP) level will dictate whether the hood is worn opened or closed.

Marines should be well groomed, as conditions permit. Hair and whiskers can prevent an airtight seal and proper functioning of the field protective mask.

Remove glasses or other items, which interfere when wearing the mask. Never wear contact lenses with any field protective mask. Marines should obtain corrective optical inserts as soon as possible after reporting to their first permanent duty station.

Remove items from head and hair that would interfere with the facepiece seal. Female Marines shall remove all hairpins, combs, hair knots, buns, or braids that will interfere with facepiece seal.

PERFORMANCE STEPS:

1. *Recognize the NBC alarm (vocal, visual, and percussion).*

a. Identify the vocal alarm for chemical/biological attack.

    (1) The universal command to put the mask on is **GAS-GAS-GAS**.

    (2) The word gas is repeated three times.

b. Identify the visual alarm for chemical/biological attack as shown in figure 1.

(1) The arms are extended straight out to the side and the hands made into a fist.

(2) As the word **GAS** is said, bend the arms at the elbows so the fists are placed to the ears, then repeat three times.

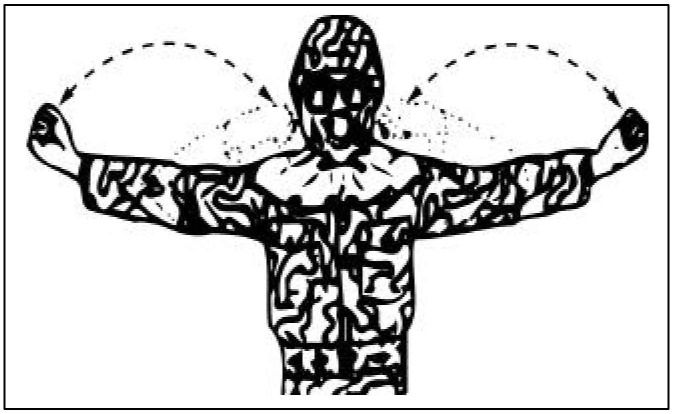


Figure 1

c. Identify percussion alarms for chemical/biological attack.

(1) *Metal on metal*. Metal triangles are used to give the NBC alarm by striking them repeatedly.

(2) Sirens, intermittent horns, biological/chemical alarm systems, or other devices as outlined by unit's standard operating procedures (SOP).

2. Stop breathing, don, clear, and check the mask.

a. Upon receiving the command or detecting a contamination presence, stop breathing, close your mouth and eyes.

CAUTION: This does not mean take one last breath.

b. Place the rifle between your legs.

c. Remove the headgear and place it on the weapon.

NOTE: Make sure that you remove glasses if you are wearing them.

CAUTION: Do not wear contact lenses with any field protective mask. Wearing contact lenses with the optical inserts will over correct your vision.

d. Remove the mask from its carrier as shown in figure 2.

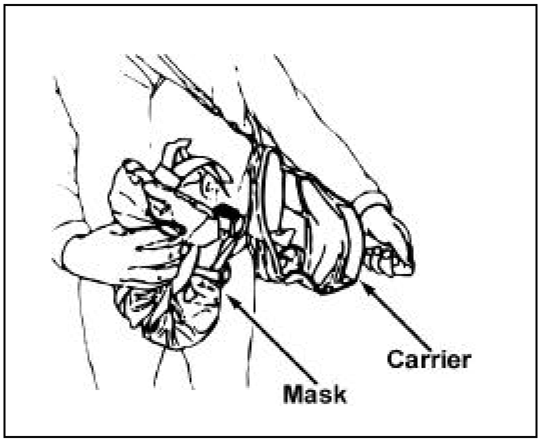


Figure 2

(1) Open the carrier with your left hand, and hold it open.

(2) Use your right hand to grasp the facepiece, and remove it from the carrier. Allow the hood to hang down in front of the mask.

e. Put your chin into the chin pocket of the facepiece. The mask is stored with the head harness pulled over the front of the mask as shown in figure 3.

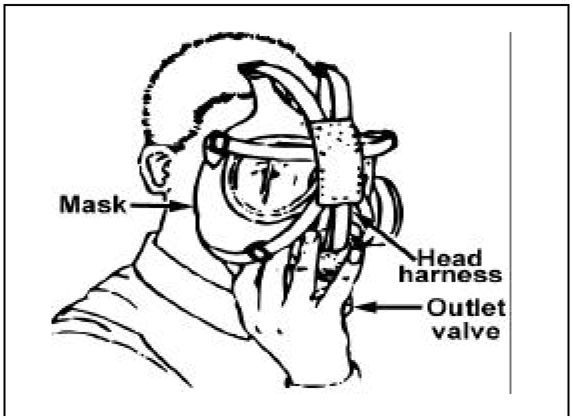


Figure 3

f. Clear the field protective mask.

(1) Cover the outlet valve with the palm of one hand as shown in figure 4.

(2) Exhale sharply so the air escapes around the edges of the facepiece.

(3) Cover the air inlet port of the canister with the palm of your free hand, and then breathe in. The facepiece should collapse against your face and remain there while holding your breath.

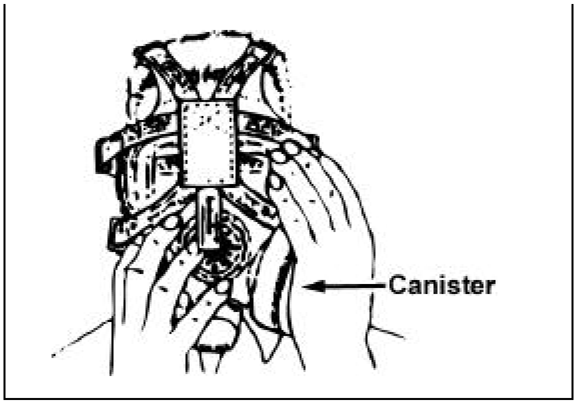


Figure 4

If	Then
Facepiece collapses	Consider it airtight.
Facepiece does not collapse	Check for hair, clothing, or other interference between the facepiece and your face. Repeat steps to clear the mask until there is an airtight seal.

g. Adjust the M40 mask.

(1) Grasp the tab as shown in figure 5, then pull the head harness over your head.

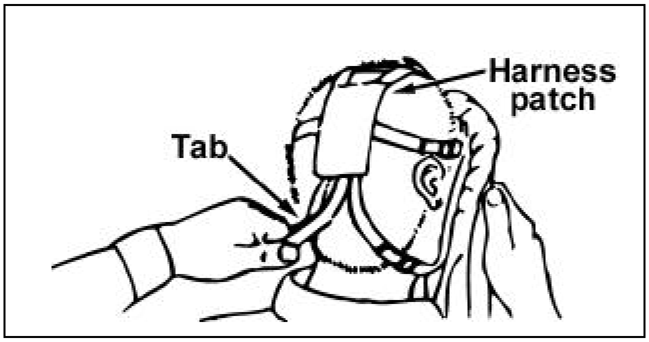


Figure 5

(2) Make sure the square harness patch is centered comfortably in the rear of your head.

CAUTION: Make sure that unit NBC personnel properly fit your mask. The temple and forehead straps are adjusted during fitting.

(3) Maintain the seal while holding the facepiece to your face with one hand.

(4) Use your free hand to tighten the cheek straps one at a time as shown in figure 6.

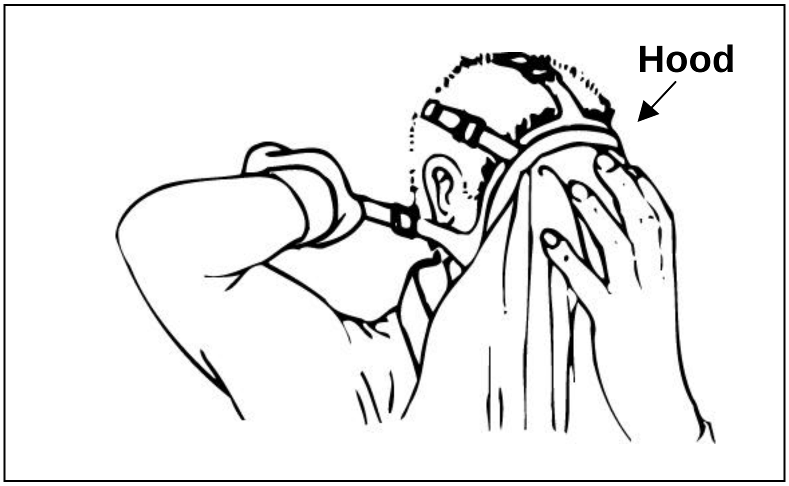


Figure 6

(5) Make sure that straps lie flat against your head.

h. Should a leak or an improper seal be suspected,

(1) Clear the field protective mask as outlined in performance step 2.f.

(2) Recheck facepiece for leaks.

WARNING: Check the mask for leaks each time you put it on. Air should circulate over the eyelenses inside the mask. If air flows in from around the edges of the mask, you may have a leak.

(3) Run your finger around the edges of the mask to check for bulging material.

(4) When time permits, have another Marine check the facepiece.

i. Resume breathing normally.

CAUTION: The mask must be donned, cleared, and sealed within 9 seconds. An additional 6 seconds is given to put the hood in place.

3. *Secure the hood.*

CAUTION: When pulling on the hood, be careful not to snag it with the buckles of the head harness.

a. Grasp the back edge of hood skirt and carefully pull it over your head as shown in figure 7.

- Cover your head, neck, and shoulders completely.

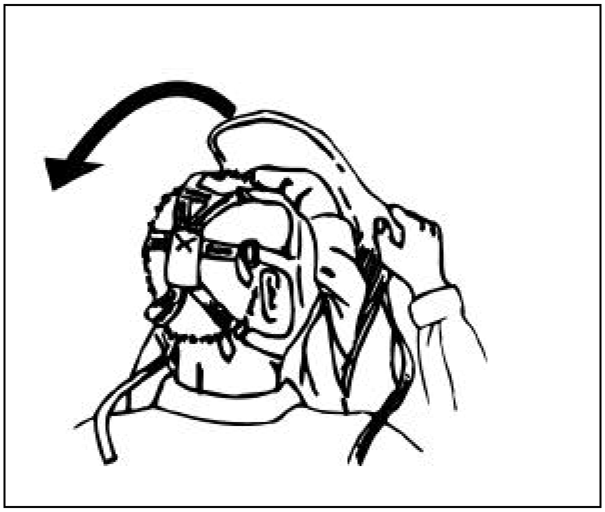


Figure 7

WARNING: Once the hood is in place, sound the alarm to warn others, as outlined in performance step 4, before continuing to secure hood.

b. Zip the front of the hood closed as shown in figure 8.

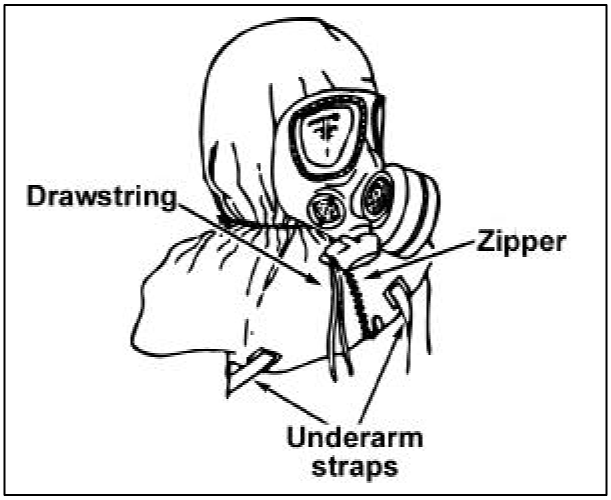


Figure 8

c. Tighten the drawstring.

d. Fasten and adjust the underarm straps. After adjusting the underarm straps on hood, do not loosen them.

e. Put on your helmet.

WARNING: When putting on your helmet, do not upset the seal between the facepiece and the side of your face. Toxic agents can leak into the facepiece.

f. Close the carrier.

g. Continue the mission.

4. *Sound the alarm to warn others.*

a. Give vocal alarm for a chemical/biological attack.

(1) The universal command to put the mask on is **GAS-GAS-GAS**.

(2) The word gas is repeated three times.

b. Give visual alarm for a chemical/biological attack as shown in figure 9.

(1) The arms are extended straight out to the side and hands made into a fist.

(2) As the word **GAS** is said, bend the arms at the elbows so the fists are placed to the ears, and repeat three times.

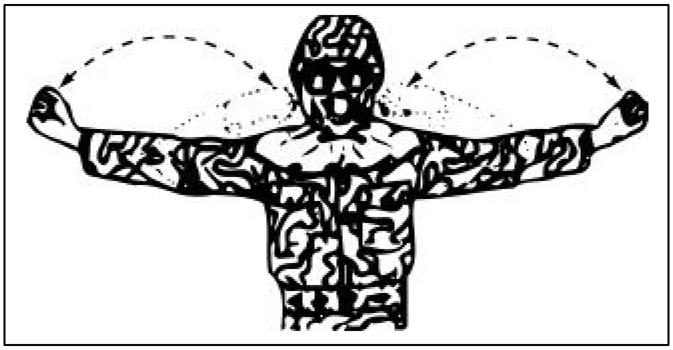


Figure 9

c. Give the percussion alarm for a chemical/biological attack.

(1) *Metal on metal.* Metal triangles are used to give the NBC alarm by striking them repeatedly.

(2) Sirens, intermittent horns, biological/chemical alarm systems, or other devices as outlined by unit's SOP.

5. *Remove the mask and hood after the UNMASK order is given.*

CAUTION: The mask and hood are removed only after the "ALL CLEAR" or "UNMASK" order is given or after tests have been conducted.

a. Place weapon between your legs.

b. Remove helmet and place it on the weapon.

c. Unfasten underarm straps.

CAUTION: Be very careful when removing hood. The hood could snag on the buckles of the head harness and tear.

d. Loosen drawstring.

e. Unzip the zipper by holding the lower part of the zipper and pulling the slider upward.

f. Place both hands on the back edge of the hood skirt and raise the hood over head and pull it over the front of the facepiece.

g. Loosen cheek straps.

h. Place one hand on the front voicemitter to hold the facepiece on your face and with the other hand grasp head harness tab and pull the head harness over the front of the facepiece and remove facepiece.

i. Replace helmet.

6. *Stow the mask with hood.*

a. Check that outserts are installed on the facepiece.

b. Check that your facepiece is dry and free of oil and solvents before stowing.

c. Check that the interior of mask carrier is free of dirt and trash or other unauthorized items.

d. Hold front of facepiece in a horizontal position and smooth the hood over it.

e. Pull head harness over front of the facepiece.

f. Fold the two edges of the hood over the outlet valve to create a “V” in the front of the hood. Store the underarm straps and drawstring in the “V.”

g. Fold the “V” upward to cover the eyelenses. Do not let the hood cover the chin opening.

h. Hold the facepiece upright and put it in the mask carrier with the lenses facing away from your body.

i. Close the carrier.

REFERENCE(S):

MCWP 3-37.2, *Nuclear, Biological, and Chemical Protection*
TM 3-4240-399-10, *Operator's Manual for Chemical-Biological Mask M40*

TASK: **MCCS.20.04 (CORE) DON INDIVIDUAL PROTECTIVE CLOTHING TO MOPP 4**

CONDITION: **GIVEN MOPP GEAR AND AN NBC ALARM OR ORDER.**

STANDARD: **WITHIN EIGHT MINUTES OF NOTIFICATION AS PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Conditions: The Marine is provided MOPP gear (chemical protective overgarment, field protective mask, overboots, and protective gloves) in an on-call simulated environment.

Standard: The Marine must correctly don appropriate levels of MOPP, 1 through 4 within 8 minutes. The Marine must correctly identify various stages of MOPP and optional variants of MOPP levels 1, 2, and 3.

ADMINISTRATIVE INFORMATION:

1. The need to balance protection with the threat, temperature, and urgency of the mission led to the concept of MOPP.
2. Commanders can raise or lower the amount of protection through six levels of MOPP—MOPP Ready through MOPP 4.
3. In addition, commanders have a mask-only option.
4. Protection increases with progression from MOPP Ready through MOPP 4, but efficiency decreases correspondingly.
5. The elements of MOPP gear that take the longest to put on and that degrade mission performance the least are put on first.
6. The MOPP gear elements that can be put on quickly and degrade performance of individual tasks the most are put on last.
7. MOPP Ready is when a Marine carries his or her protective mask. MOPP level 0 is the condition that exists when a Marine has all of his or her MOPP gear available but is not wearing it.
8. Use the chart below to aid in identifying what is worn and what is carried for MOPP levels 1 through 4.

MOPP LEVELS

Levels	**Overgarment**	**Booties**	**Mask**	**Gloves**
1	Worn open or closed	Carried	Carried	Carried
2	Worn open or closed	Worn	Carried	Carried
3	Worn open or closed	Worn	Worn with hood open or closed	Carried
4	Worn	Worn	Worn	Worn

PERFORMANCE STEPS:

1. *Don and clear the M40-series field protective mask.*

a. Stop breathing, don, clear, and check the mask.

b. Upon receiving the command or detecting a contamination presence, stop breathing, close your mouth and eyes.

CAUTION: This does not mean take one last breath.

c. Place the rifle between your legs.

d. Remove the headgear and place it on the weapon.

NOTE: Make sure that you remove glasses if you are wearing them.

CAUTION: Do not wear contact lenses with any field protective mask. Wearing contact lenses with the optical inserts will overcorrect your vision.

e. Remove the mask from its carrier as shown in figure 1.

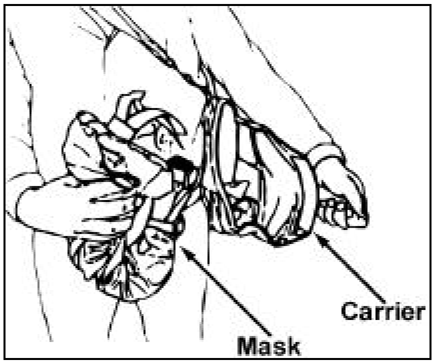


Figure 1

(1) Open the carrier with your left hand and hold it open.

(2) Use your right hand to grasp the facepiece and remove it from the carrier. Allow the hood to hang down in front of the mask.

f. Put your chin into the chin pocket of the facepiece. The mask is stored with the head harness pulled over the front of the mask as shown in figure 2.

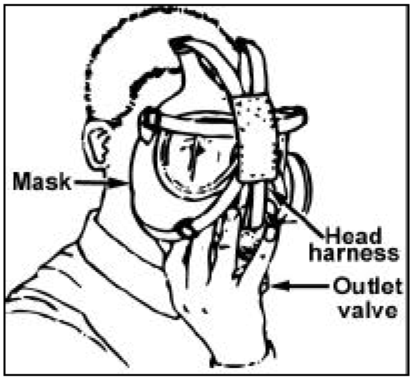


Figure 2

g. Clear the field protective mask.

(1) Cover the outlet valve with the palm of one hand as shown in figure 3.

(2) Exhale sharply so that the air escapes around the edges of the facepiece.

(3) Cover the air inlet port of the canister with the palm of your free hand and then breathe in. The facepiece should collapse against your face and remain there while you hold your breath.

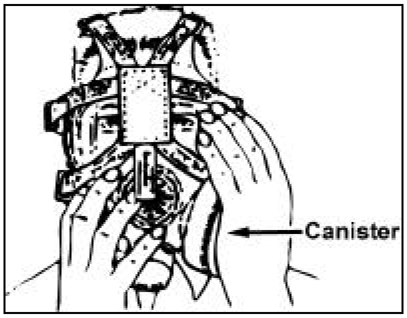


Figure 3

If	Then
Facepiece collapses	Consider it airtight
Facepiece does not collapse	Check for hair, clothing, or other interference between the facepiece and your face.
	Repeat steps to clear the mask until there is an airtight seal.

h. Adjust the M40 mask.

(1) Grasp the tab as shown in figure 4 and then pull the head harness over your head.

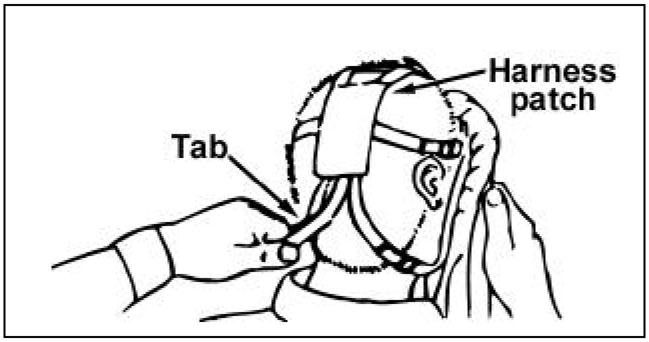


Figure 4

(2) Make sure that the square harness patch is centered comfortably in the rear of your head.

CAUTION: Make sure that unit NBC personnel properly fit your mask. The temple and forehead straps are adjusted during fitting.

(3) Maintain the seal while holding the facepiece to your face with one hand.

(4) Use your free hand to tighten the cheek straps one at a time as shown in figure 5.

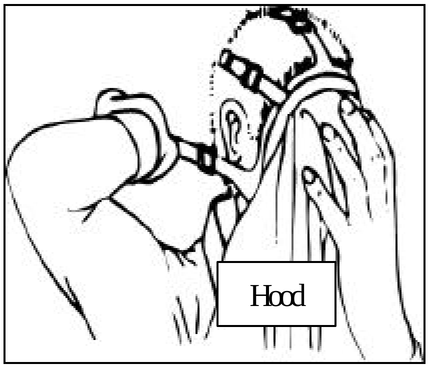


Figure 5

(5) Make sure that straps lie flat against your head.

i. Should a leak or an improper seal be suspected:

(1) Clear the field protective mask as outlined in performance step *1*.f.

(2) Recheck facepiece for leaks.

WARNING: Check the mask for leaks each time you put it on. Air should circulate over the eyelenses inside the mask. If air flows in from around the edges of the mask, you may have a leak.

(3) Run your finger around the edges of the mask to check for bulging material.

(4) When time permits, have another Marine check the facepiece.

j. Resume breathing normally.

CAUTION: The mask must be donned, cleared, and sealed within nine seconds. An additional six seconds is given to put the hood in place.

k. Grasp the back edge of hood skirt (figure 6) and carefully pull it over your head.

- Cover your head, neck, and shoulders completely.

CAUTION: When pulling on the hood, be careful not to snag it with the buckles of the head harness.

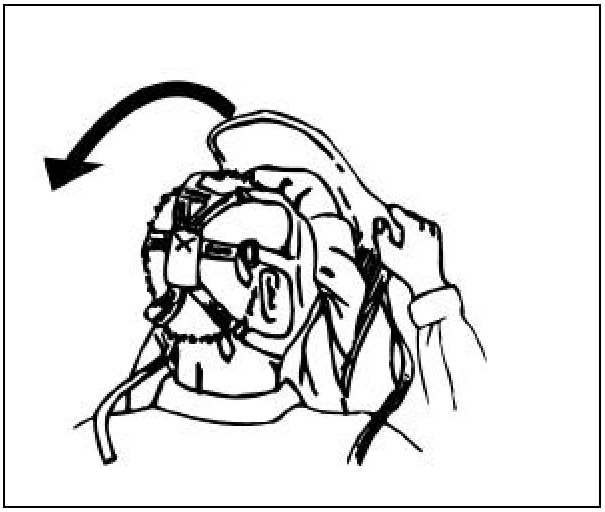


Figure 6

l. Sound the alarm to warn others.

(1) Give vocal alarm for a chemical/biological attack.

(a) The universal command to put the mask on is **GAS-GAS-GAS**.

(b) The word gas is repeated three times.

(2) Give visual alarm for a chemical/biological attack as shown in figure 7.

(a) The arms are extended straight out to the side and hands made into a fist.

(b) As the word **GAS** is said bend the arms at the elbows, so that the fists are placed to the ears, and repeat three times.

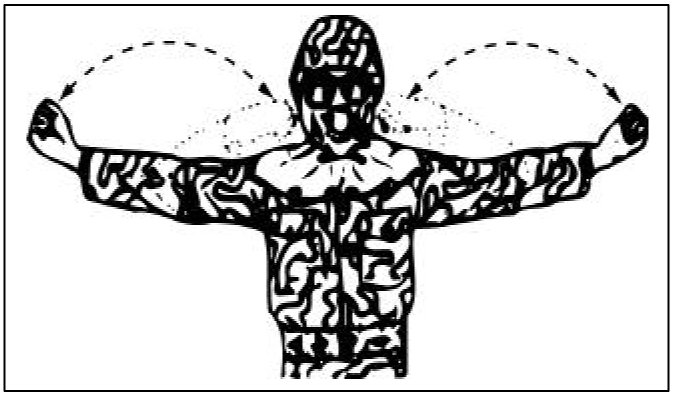


Figure 7

(3) Give the percussion alarm for a chemical/biological attack.

   (a) Metal on metal. Metal triangles are used to give the NBC alarm by striking them repeatedly.

   (b) Sirens, intermittent horns, biological/chemical alarm systems, or other devices as outlined by unit's SOP.

m. Zipper (figure 8) the front of the hood closed.

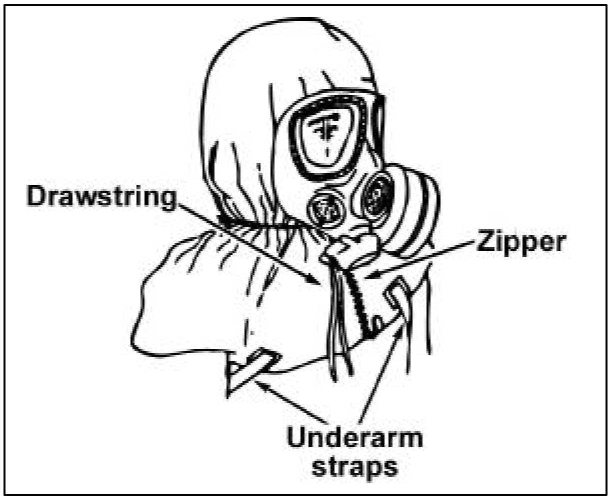


Figure 8

n. Tighten drawstring.

o. Put on your helmet.

WARNING: When putting on your helmet, do not upset the seal between the facepiece and the side of your face. Toxic agents can leak into the facepiece.

p. Close carrier.

2. Don the Saratoga suit.

a. Don the trousers.

(1) Put on the overgarment trousers over your normal duty uniform or over your undergarments in hot weather.

(2) Secure the trousers by fastening the Velcro and zipping the trousers and adjusting the waistband for a snug fit.

(3) Do not fasten the bottom of the trousers at this time.

b. Don the jacket.

(1) Put on the overgarment jacket.

(2) Zip it up.

(3) Fasten the Velcro.

NOTE: Body armor is worn under the overgarment blouse.

c. Fasten and adjust field protective mask hood underarm straps.

NOTE: After adjusting underarm straps on hood, do not loosen them.

3. Don the overboots.

NOTE: There are currently three versions of overboot available. Units with the two older versions should continue to use the donning procedures for the older model. Instructions are provided on the respective packages.

a. Don the green chemical protective overboot.

(1) Pull the chemical protective overboots on over your combat boots.

(2) Secure overboots by pulling the rubber bands around the buttons.

(3) Blouse the overgarment trouser legs over the chemical protective overboots.

(4) Secure the overgarment trouser legs by zipping and fastening the Velcro closures.

b. Don the older model chemical protective overboot.

(1) Don the cover on either foot by centering your foot on the sole.

(2) When lacing your overboots, start from the front eyelet using equal amounts of lace tied through the eyelet.

(3) Pass the lace through the side eyelet, from inside to the outside, and over the top of the boot.

(4) Continue to the rear eyelet/eyelets and pass the lace through and again over the top of the boot.

NOTE: With the two older types of overboot available there is a single rear eyelet or a double rear eyelet. Pass the lace through the appropriate eyelet and over the top of the boot.

(5) Excess lace should be criss-crossed around the top of the overboot and tied off near the top. Tuck laces inside the overgarment trouser leg.

(6) Blouse the garment trouser legs over the chemical protective overboots by closing the leg openings and securing the Velcro closure of the overgarment trouser legs.

NOTES: Topical Skin Protection (TSP), used to combat blister agents, should be applied to the skin on areas where overgarment articles overlap, such as neck, ankles and wrists.

4. Don the gloves.

a. Don the chemical protective glove set (rubber gloves with liners).

b. Loosen sleeve cuff and place protective gloves under sleeve cuff and reseal overgarment sleeve.

NOTES: Jacket sleeves will be pulled over the gloves.

Whenever possible the buddy system should be used to aid in the donning of MOPP equipment.

REFERENCE(S):

MCWP 3-37.2, *Nuclear, Biological, and Chemical Protection*

TASK: **MCCS.20.05 (CORE) PERFORM BASIC FUNCTIONS WHILE IN MOPP 4**

CONDITION: **GIVEN A CANTEEN WITH M1 NBC CAP, M8 DETECTOR PAPER, FILTER CANISTERS, AND DECONTAMINATION KIT WHILE IN MOPP 4.**

STANDARD: **TO ACHIEVE THE PERFORMANCE STEPS PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided a field protective mask, canteen with an M1 NBC cap, M258A1 decon kit, and MOPP 4 conditions.

Standard: The Marine must drink from the canteen using the drinking tube apparatus, decontaminating the male end of the drinking tube. The Marine must describe procedures necessary in performing bodily functions, particularly decontamination of exposed areas of the body and clothing. Additionally, the Marine will state the procedures necessary to sleep safely while in MOPP 4.

See TASK **DECONTAMINATE THE SKIN AND PERSONAL EQUIPMENT (MCCS.20.05)**

PERFORMANCE STEPS:

1. *Drink water.*

WARNINGS: Ensure that all mating surfaces, to include protective gloves, canteen cap, and quick connects, have been checked for contamination. Chemical agents can be swallowed and cause sickness or death. When contamination is found, decon with applicable decon kits.

Care should be taken not to break the mask's seal during any portion of this or any mask operation while in a contaminated environment.

CAUTION: If the drinking system leaks, pinch the external drinking tube where it connects to the outlet valve body to prevent inhalation until a replacement mask is obtained or the wearing of the mask is no longer required.

a. Check the canteen cap, quick connect, and protective gloves for contamination using M8 paper. Decontaminate as necessary.

b. Press on the top of the outlet valve until the internal drinking tube can be grasped between your teeth.

c. Steady the mask and pull the quick disconnect coupling out of the outlet valve cover (figure 1).

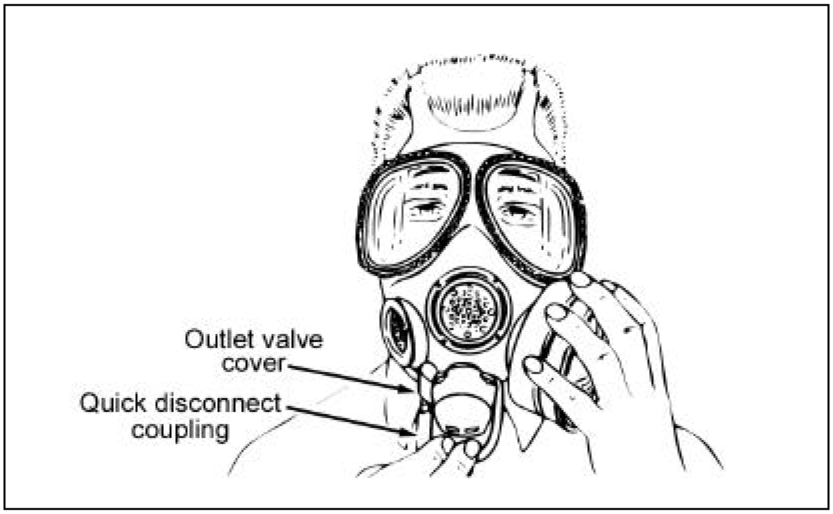


Figure 1

d. Remove canteen from carrier and open canteen cap.

e. Push the quick disconnect coupler into the top of the M1 canteen cap using a pushing, twisting motion, so that the pin enters coupling (figure 2).

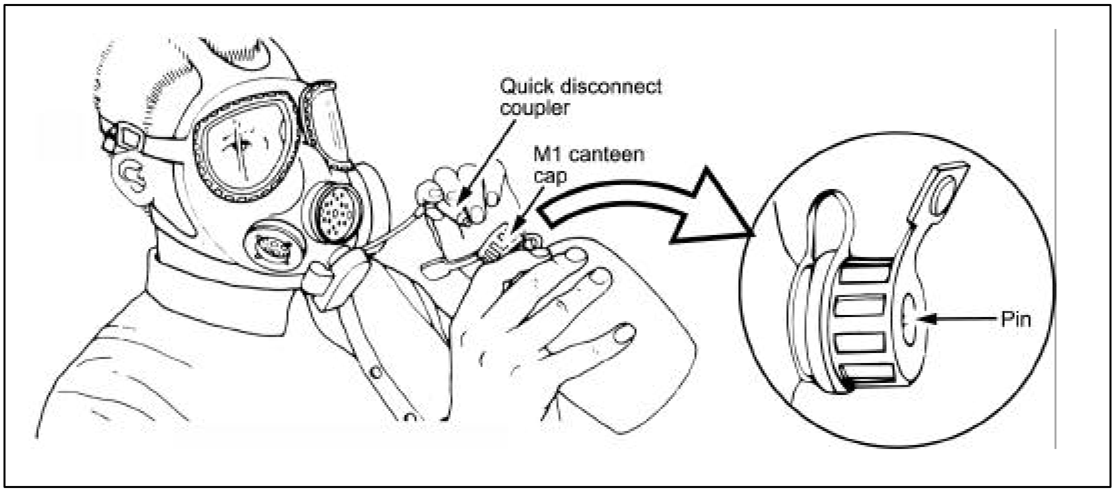


Figure 2

f. Blow into the drinking tube. You should feel some resistance.

WARNING: You should feel resistance when you blow into the drinking tube. If not, do not drink; the line may be contaminated.

g. Turn the canteen upside down and drink.

h. After several swallows, blow into the drinking tube mouthpiece to create overpressure in the canteen. Repeat as necessary.

CAUTIONS: Do not tilt your head back while drinking.

Do not rest the canteen on the front lip of your helmet while drinking.

i. When finished drinking,

(1) Turn the canteen right side up.

(2) Blow into the drinking tube to clear the hose and pressurize the canteen.

(3) Release the drinking tube from your teeth.

j. Disconnect the coupler from the canteen cap by gently pulling up and twisting at the same time.

k. Stow the quick disconnect to the front of the mask, and return the canteen to the pouch.

2. Urinate and defecate as necessary.

WARNING: When Marines need to relieve themselves in MOPP 3 or MOPP 4, they must carefully avoid getting contaminants on exposed skin or clothing worn under the overgarments. Using the buddy system, if possible, Marines should follow these steps:

a. Select an area for a “cathole” to deposit and bury body wastes.

NOTE: Avoid low-lying areas and areas with heavy brush.

b. Provide security.

NOTE: Whenever possible, use the buddy system.

c. Scrape away surface area to a minimum depth of 2 inches, using entrenching tool. Area should be large enough to hold your weapon and 782-gear.

d. Dig a cathole approximately 1 foot deep.

NOTE: Cathole should be within arm’s reach of the area for your weapon and 782-gear.

e. Place your weapon and 782-gear in the prepared area, retaining your M258A1 skin decon kit on your person.

NOTE: In combat areas retain your armored vest and helmet.

f. Remove packets from your M258A1 skin decon kit.

g. Decontaminate your protective gloves.

h. Pull up your overgarment jacket.

(1) Grasp the bottom edge of jacket.

(2) Fold the jacket back on itself once, just enough to open your overgarment trousers.

i. Decontaminate your gloves again, if necessary.

j. Unsnap and unzip your overgarment trousers.

- Peel them down carefully and away from your body as required to perform the specific elimination function.

k. Remove your protective gloves carefully, setting them close by.

l. Unbutton and open your utility trousers, if you are wearing them.

- Be careful to avoid touching contaminated overgarment.

m. Lower your trousers and underwear and eliminate waste.

WARNING: Exercise extreme care in the storage and handling of toilet paper. This material will easily absorb contamination when exposed.

n. Have your M258A1 skin decon kit handy.

- Use the decon kit to decontaminate the skin that may have become contaminated.

o. Pull up your underwear and utility trousers and secure them.

p. Put your gloves back on.

- Avoid touching the outside of your gloves that might be contaminated.

q. Pull up your overgarment trousers and refasten them.

r. Pull your overgarment jacket back into place.

s. Collect and secure your deuce gear (782-gear) and weapon.

t. Ensure that all used toilet paper and decon wipes are in cathole.

u. Fill in cathole, pack it down, and camouflage the area.

v. Continue the mission.

w. If necessary to relieve yourself in your overgarment, change as soon as possible.

3. *Change filter canister on order.*

a. In a tactical combat situation canisters will normally be changed utilizing the buddy system. This may be accomplished in a collective protective shelter, a preselected uncontaminated environment, or wherever the situation may require.

b. The Marine assisting in changing the filter will remove new canister from package and inspect the canister.

   (1) Inspect seams for cracks, dents, or holes.

   (2) Check air inlet to ensure it is not clogged with dirt or debris.

   (3) Check threads and connectors on the canister for damage.

   (4) Check the mating surface for dirt.

   (5) Shake canister and listen for signs of loose absorbent particles.

   (6) Check for water damage (any moisture will ruin the filter).

c. Take a deep breath and hold it. Close your eyes.

d. Unscrew the canister counterclockwise and remove it from the facepiece assembly (figure 3). Ensure that the seal on your mask is not broken.

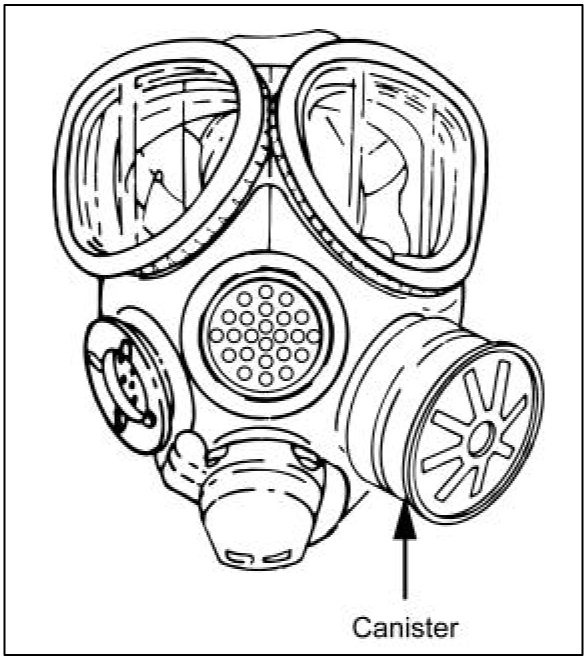


Figure 3

e. Your buddy should now install the new canister.

   (1) Insert canister into side port of face piece. Ensuring that threads line up.

   (2) Tighten canister hand tight by turning clockwise.

f. Upon receiving a signal from your buddy (i.e., tap on the back or verbal signal) clear mask.

   (1) Cover the outlet valve with the palm of one hand.

   (2) Exhale sharply so that the air escapes around the edges of the facepiece.

(3) Cover the air inlet port of the canister with the palm of your free hand and then breathe in.

NOTE: The facepiece should collapse against your face and remain there while holding your breath. If it collapses, the facepiece is considered airtight. If the facepiece does not collapse, check for hair, clothing, or other interference between the facepiece and your face. Then repeat steps to clear the mask, as outlined in performance step 3.f., until there is an airtight seal.

g. In tactical combat situations, dispose of contaminated or uncontaminated canisters by crushing and burying the canisters under at least 6 inches of earth.

4. Sleep in a contaminated chemical environment, as required.

a. Before sleeping

(1) Protect yourself with overhead cover, if possible.

(2) Ensure that there are no exposed body parts and that chemical protective clothing fits properly.

(3) Ensure that the hood is fitted properly and is worn correctly with mask.

b. Use the buddy system to periodically check on each other while sleeping.

REFERENCE(S)

MCWP 3-37.2, *Nuclear, Biological, and Chemical Protection*

TASK: **MCCS.20.06 (CORE) PERFORM NBC DETECTION MEASURES**

CONDITION: **GIVEN M9 AND M8 DETECTOR PAPER, AN M256A1 CHEMICAL AGENT DETECTOR KIT, AND A SIMULATED CONTAMINATED AREA WHILE DRESSED IN MOPP 4.**

STANDARD: **TO DETERMINE PRESENCE OF CONTAMINATION PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided a simulated NBC environment and a M256A1 chemical agent detector kit, to include M8 and M9 detector paper, in an area where chemical agents are present. He or she will be at MOPP level 4.

Standard: The Marine must properly identify chemical agents present in liquid or vapor form.

GENERAL INFORMATION:

When identifying chemical agents, use the most expedient method. Using M8 or M9 detectors will take only seconds, whereas using the M256A1 will take approximately 15 minutes. Disadvantages of M8 and M9 over the M256A1 are their inability to test for vapor hazards and the limited number of agents detected.

PERFORMANCE STEPS:

1. *Demonstrate the use of M9 detector paper.*

a. M9 detector tape is usually issued 1 roll per squad or gun team and is worn around the ankles, wrists, and biceps on the exterior of protective clothing. Its purpose is to detect the presence of chemical agents, but will not identify the agent.

b. Open package of M9 tape.

c. Unroll a small portion of detector tape.

d. Blot, do not rub, the M9 tape on suspect liquid. Its use is primarily on barely visible droplets.

e. Observe for a color change.

- When in contact with contamination, the color will appear as a light pink to a reddish brown or violet tint.

2. *Demonstrate the use of M8 detector paper.*

a. M8 paper is issued with your field protective mask and the M256A1 chemical agent detector kit as an SL-3 component. Its use is primarily on suspected liquid forms such as puddles, small drops, or barely visible droplets.

b. Remove and open M8 paper from the M256A1 kit or mask carrier, tearing off and discarding the plastic bag as shown in figure 1.

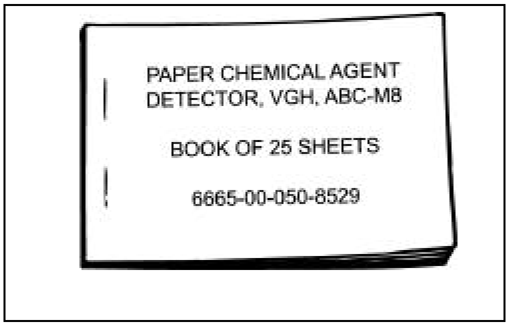


Figure 1

c. Test the liquid.

(1) Tear out a sheet of M8 paper (use half a sheet if it is perforated).

(2) Expose M8 paper to suspected liquid agent.

CAUTION: Make sure the M8 paper is held in the down position to prevent liquid contaminants from running onto protective glove as shown in figure 2.

(3) Blot—do not rub the M8 on suspected contamination.

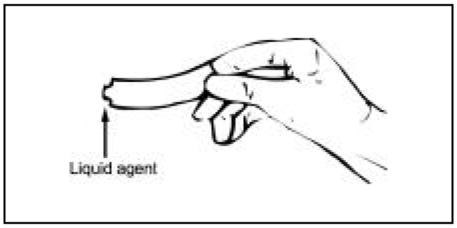


Figure 2

(4) Compare any color changes by observing the colors shown on the inside cover of the book of M8 paper as shown in figure 3. The chart below identifies the color associated with the agent when using the M8 paper.

Color	Series	Agent
Yellow/gold	G	Nerve
Dark green	V	Nerve
Pink/red	H	Blister
Note: Some G agents give a red-brown color typical between H and G colors.		

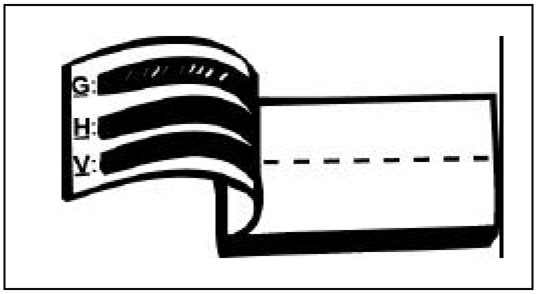


Figure 3

NOTES: Where decontaminants have been used, positive results must be confirmed by tests with the sampler-detector. Some decontaminants will produce false positive test on M8 paper.

Check the decontaminant itself with a sampler-detector because some decontaminants will produce false indications on the sampler- detector.

Never assume that an area is uncontaminated. When in doubt, re-test the area with an M256A1 kit and report the findings.

3. *Demonstrate the use of an M256A1 chemical agent detector kit.*

Do	Do Not
Avoid venting vapors when conducting tests.	Use an outdated sampler detector; it may give inaccurate test results.
Avoid inaccurate test results by opening the sampler detector bag and conducting tests while facing into the wind. This will keep the vapors from your equipment and clothing, as well as from causing inaccurate test results.	Touch sampler detector spots. Dirt and oil from gloves will give inaccurate test results.
Place heater pads on each side of the sampler detector before breaking glass ampoules, covering the ampoules to be broken. These pads will prevent pieces of glass shards from cutting or puncturing protective gloves and hands.	Use the kit if you are colorblind. Color comparisons are used during tests. A wrong reading of results might cause removal of protective equipment while toxic agents are present.
Avoid sampling in smoke or smoke screens.	Use the red lens of a flashlight when performing tests at night.
Wear a watch outside protective clothing. If none is available, the operator will estimate the wait times (10 minutes, 5 minutes, etc.).	Expose the sampler detector to any type of moisture. This can cause inaccurate test results.

(1) Ready the kit.

  (a) Put the shoulder strap over your head and one shoulder.

  (b) Adjust the shoulder strap so the kit will hang at waist level.

(2) Fasten the kit to the belt, hooking the waist belt-attachment strap to the belt as shown in figure 4.

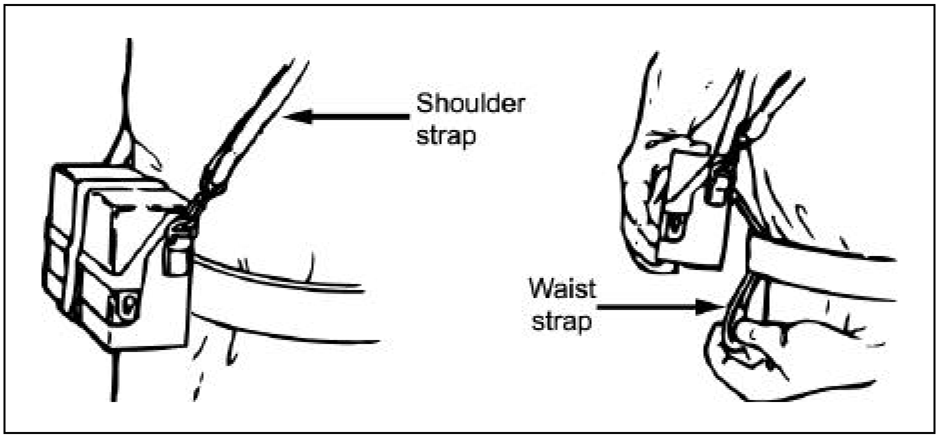


Figure 4

(3) Open the kit.

  (a) Pull the strap away from the fastener strip.

  (b) Grasp the case top, and pull it up while turning it away from your body as shown in figure 5.

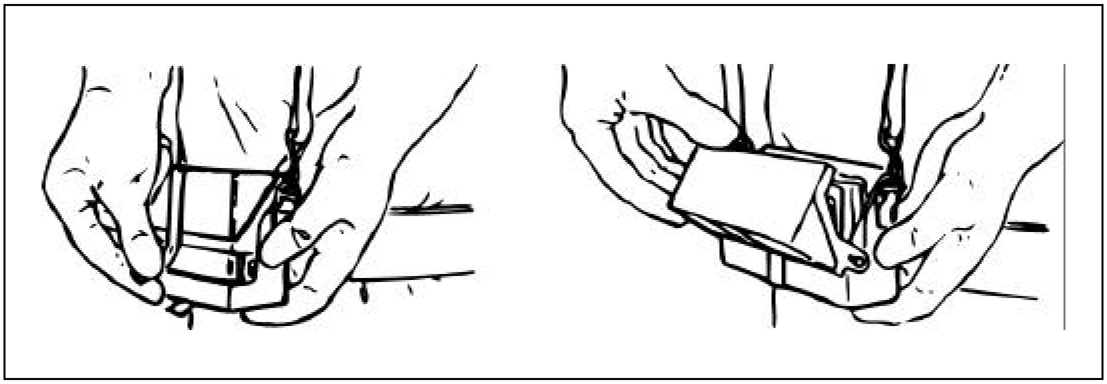


Figure 5

  (c) Take out the instruction cards and read both sides.

  (d) Take out a sampler detector and read both sides of the sampler detector bag.

    1. Observe all warnings.

2. Tear the protective bag along the line marked by arrows as shown in figure 6.

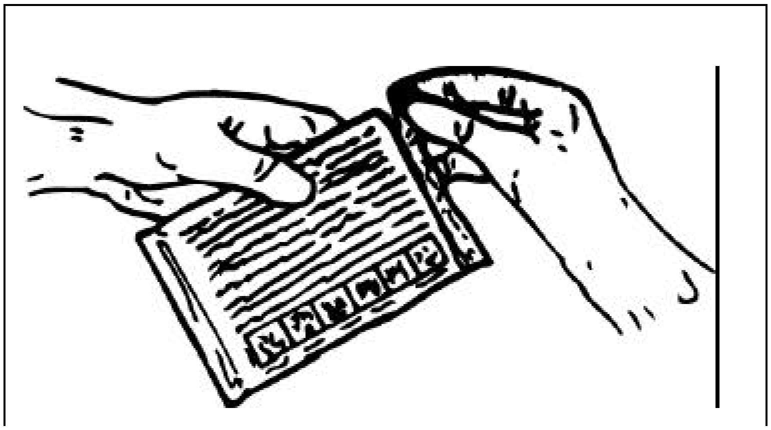


Figure 6

3. Carefully pull out the sampler detector and save the bag for reference to instructions.

d. Test for toxic vapors.

(1) Observe all warnings.

(2) Swing out the heater; remove and save the two loose pads as shown in figure 7.

(a) Place the pads under the hinged heater for storage.

(b) Swing the heater back into place.

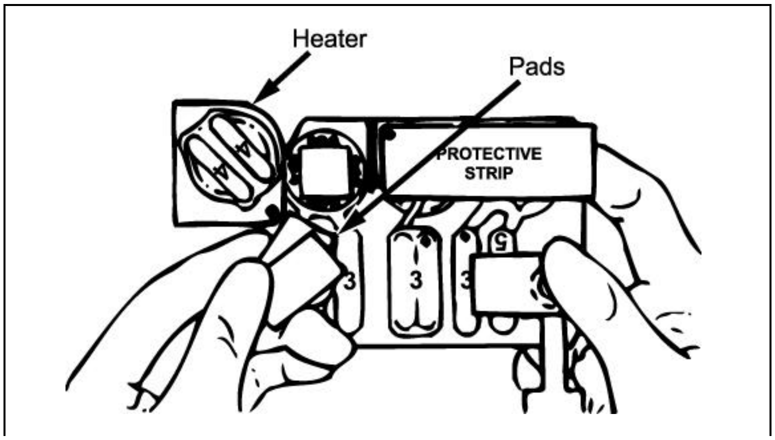


Figure 7

(3) Remove the pull-tab marked number 1.

- Pull upward to expose the lewisite-detecting tablet as shown in figure 8.

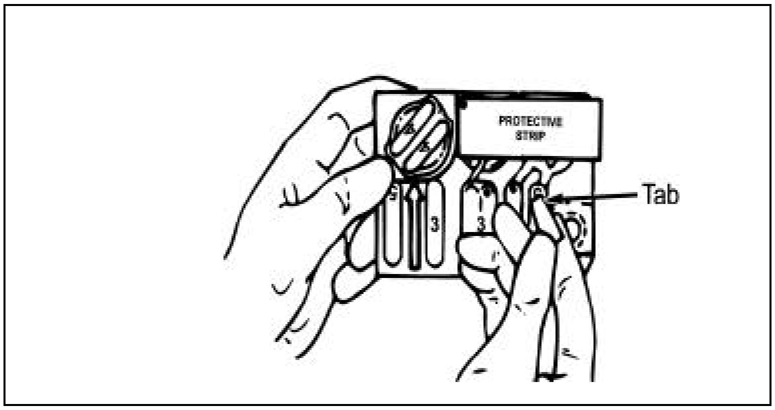


Figure 8

(4) Mark the lewisite-rubbing tab.

  (a) Bend the tab over the lewisite-detecting tablet.

  (b) Rub the upper half of the tab until a mark is visible as shown in figure 9.

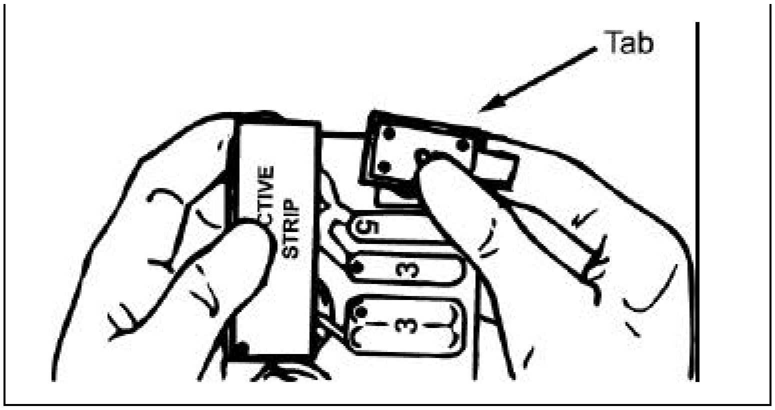


Figure 9

(5) Hold the sampler detector with the test spots or arrow pointing up.

(6) Using the heater pads, crush four ampoules in the three center pockets marked number 3 as shown in figure 10.

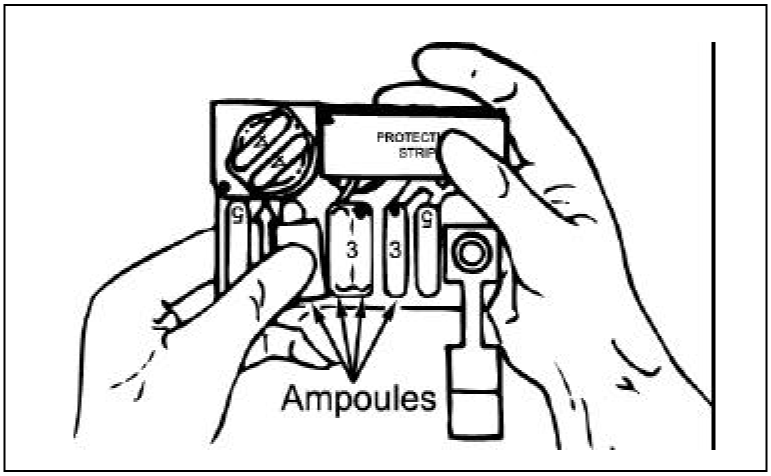


Figure 10

(7) Work solutions into the spot carefully while pressing the protective strip over the nerve agent spot.

NOTE: Nerve agent spots may be difficult to wet with solutions as the kit ages.

(8) Turn the sampler detector upside down and verify wetting of test spots.

(9) Hold the sampler detector with the test spots or arrow pointing down.

(10) Using the heater pads, squeeze the ampoules to force liquid through the formed channels as shown in figure 11.

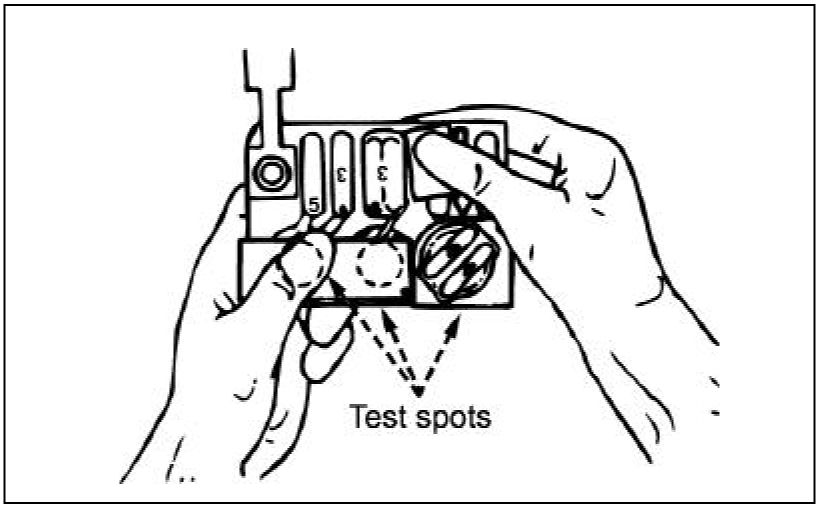


Figure 11

(11) Put your thumb on the protective strip over the middle of the test spot.

(12) Swing the heater away from the test spot as shown in figure 12.

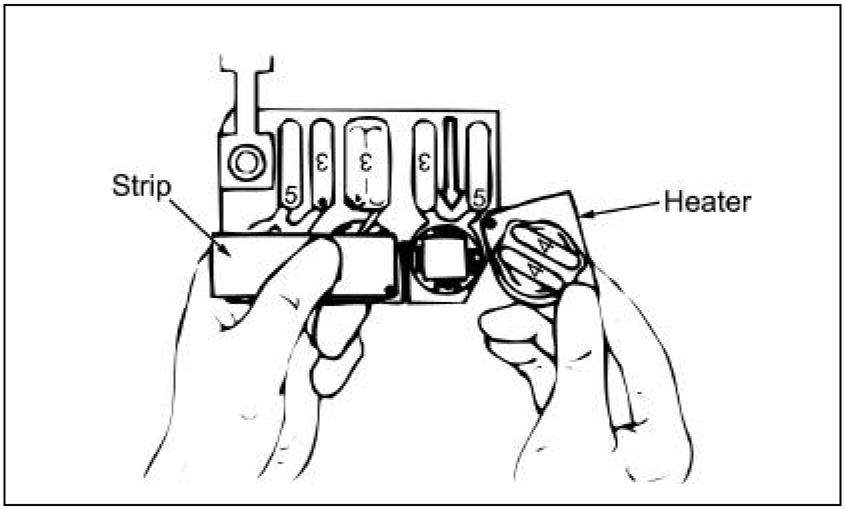


Figure 12

WARNING: Avoid hot vapors—could cause burns when crushing heater ampoules. Face into the wind and hold the sampler detector down and to one side while the vapors are venting.

(a) Activate the first heater ampoule marked number 4.

1. Be sure to use the heater pads, crush one green ampoule, and swing the heater immediately over the test spot as shown in figure 13.

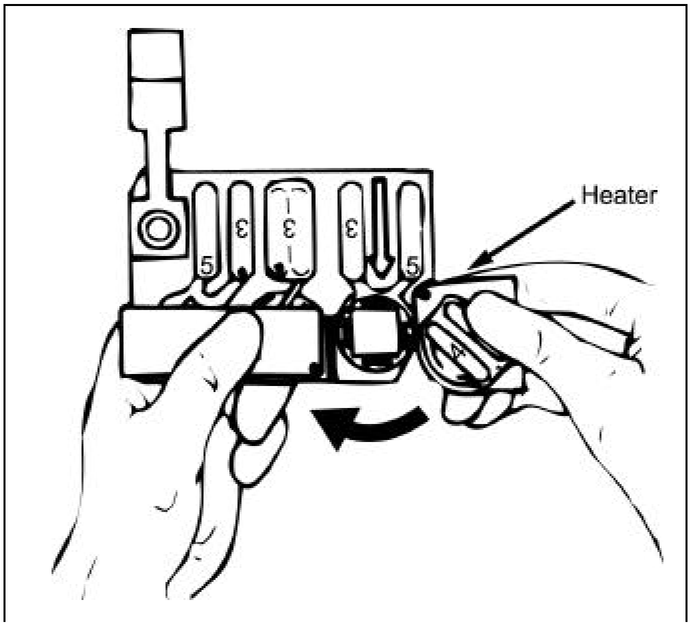


Figure 13

2. Hold the sampler detector to one side when venting to avoid vapors.

(13) After 2 minutes, swing the heater away from the test spot and swing the protective strip away from test spots.

WARNING: Do not hold the sampler detector in direct sunlight while exposing the test spots. You may not be able to obtain accurate test results.

(14) Expose the test spots to air for 10 minutes.

NOTE: Hold the sampler detector by the hinged protective strip.

(15) After 10 minutes activate the second heater ampoule marked number 4 as shown in figure 14.

(a) Crush the second green ampoule; be sure to use the heater pads.

(b) Swing the heater immediately over the test spot.

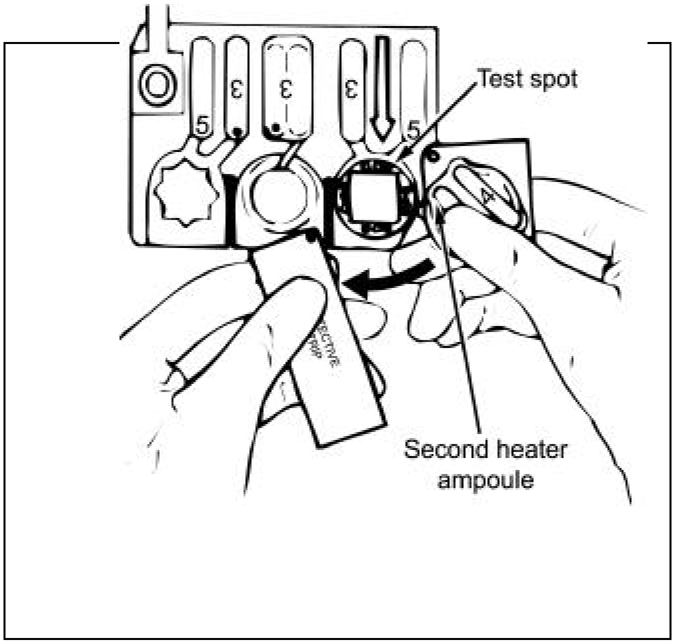


Figure 14

(16) After 1 minute, swing the heater away from the test spot.

(17) Hold the sampler detector with the test spots or arrows pointing down.

(18) Using the heater pads, crush the remaining ampoules marked number 5. Be sure to wet the test spots by squeezing the ampoules to force the liquid onto the test spots as shown in figure 15.

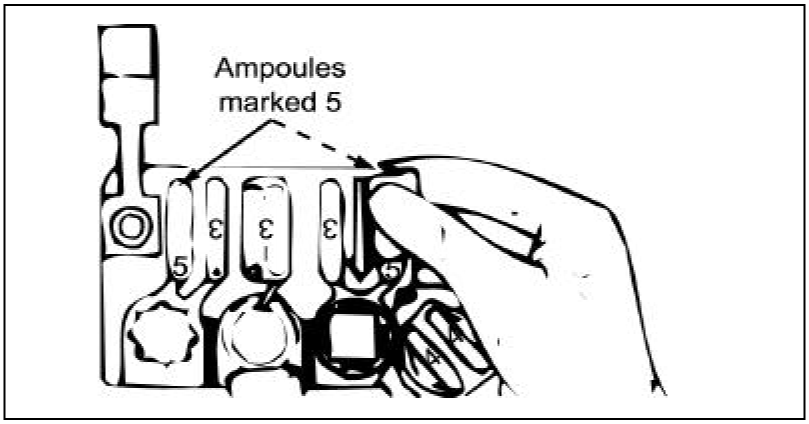


Figure 15

(19) Rerub the lewisite-detecting tablet.

  (a) Bend the tab over the lewisite-detecting tablet.

  (b) Rub the bottom half of the tab until a mark is visible as shown in figure 16.

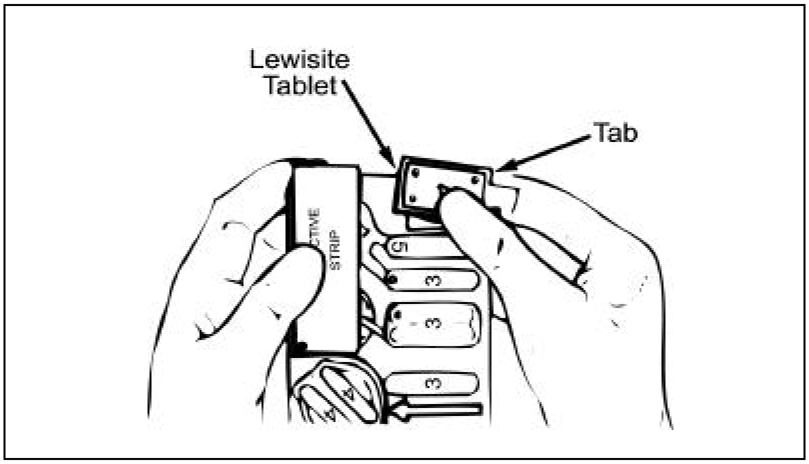


Figure 16

  (c) Compare the colors to determine whether conditions are dangerous or safe.

(20) Turn the sampler detector over to the reverse, and compare the colors of the test spots with those shown on the sampler detector as shown in figure 17.

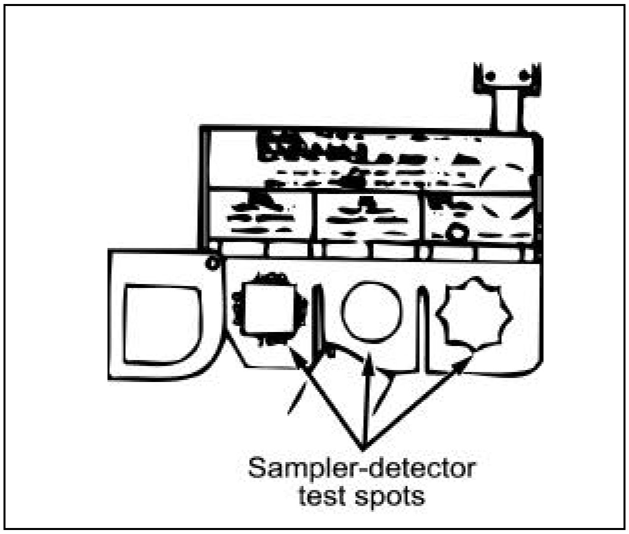


Figure 17

(21) Look for a change in the color of the rub marks on the lewisite-detecting tab. Refer to the table below for your results.

<table>
<tr><th>Agent</th><th>Time</th><th>Reaction</th></tr>
<tr><td>Blood (round spot)
Lewisite (rubbing tab)</td><td>10 minutes of exposure time</td><td>

- Yellow and orange: negative
- Pink or blue: positive
- Rainbow effect: positive

<table>
<tr><th>If…</th><th>Then…</th></tr>
<tr><td>Blood agent is indicated</td><td>Repeat the test for toxic agent vapors with a fresh sampler-detector.</td></tr>
<tr><td>Blood agent is <i>not</i> indicated the second time</td><td>Negative</td></tr>
<tr><td>Blood agent is indicated second time</td><td>Positive</td></tr>
</table>
</td></tr>
<tr><td>Blister (H and CX) (square spot)</td><td>Immediately after all the ampoules are broken</td><td>

- Purple or blue: positive
- Colorless: negative
</td></tr>
<tr><td>Nerve (polygon)</td><td>3 minutes</td><td>

- No color develops: positive
- Disregard any small blue or blue-green areas under the plastic rim of nerve agent spot. View the rub marks on the tab very closely. At low concentrations, change may be very slight. Compare with the second rub mark before judging
</td></tr>
</table>

(22) If your kit has a fourth instruction card, use it to compare the colors to determine whether conditions are dangerous or safe.

(23) Before you dispose of the sampler-detector, contact the OIC for disposal instructions—consistent with the local unit's NBC SOP. Each sampler-detector contains 2.6 mg of mercuric cyanide, which is considered hazardous waste.

REFERENCE(S):

MCWP 3-37.2, *Nuclear, Biological, and Chemical Protection*

TASK: **MCCS.20.07 (CORE) DECONTAMINATE SKIN AND PERSONAL EQUIPMENT**

CONDITION: **GIVEN A DECONTAMINATION KIT AND SIMULATED CHEMICAL CONTAMINATION ON THE SKIN AND EQUIPMENT.**

STANDARD: **WITHIN ONE MINUTE OF DISCOVERING THE PRESENCE OF CONTAMINATION AS PER THE REFERENCE.**

> EVALUATION GUIDELINES TO BE USED DURING TRAINING:
>
> *Condition:* The Marine is provided an M258A1 decontamination kit and simulated chemical contamination on the skin.
>
> *Standard:* The Marine must properly demonstrate the use of the M258A1 skin decontamination kit by decontaminating a simulated chemical agent from the hand and/or face within one minute of discovering the presence of the contamination.

PERFORMANCE STEPS:

NOTES: The M258A1 is used primarily to decontaminate skin and personal equipment contaminated with a liquid chemical agent.

When you discover or suspect that chemical agents are present on the skin, react immediately. For training purposes, the contaminants will be simulated.

1. *Avoid further contamination.*

a. Don mask and hood, even if your face and/or hands are contaminated. If your face is contaminated, do not fasten your hood.

WARNING: If contamination has gotten into your eyes, immediately flush eyes with water to prevent serious injury.

b. Seek overhead cover, or use a poncho for protection against further contamination.

2. *Utilize the decontamination kit.*

NOTES: Use the "pinch blot method" vice wiping of the skin to avoid spreading contamination.

Small holes in protective gloves can allow chemical agents to penetrate the protective barrier. Always inspect equipment periodically to ensure serviceability.

Decon areas, particularly the hands, when symptoms appear such as tingling hands or fingertips, reddening of the skin, or intense bee like stings are present.

a. Use the M258A1 decontamination kit.

(1) Snap open your decon kit.

(2) Take out a decon packet numbered 1 by its tab.

(3) Fold packet on solid line marked "BEND," then unfold it.

(4) Quickly tear open the packet at notch; remove the wipe and fully unfold it.

(5) Use decon packet 1 to blot off contaminated skin for 1 minute.

(6) Take out one decon packet number 2 and crush the enclosed glass ampoules between thumb and fingers. Do not knead.

CAUTION: When crushing ampoules, glass shards can penetrate protective gloves causing injury and defeating the gloves protective barrier.

(7) Open decon packet 2.

(a) Fold the packet on solid line marked "CRUSH AND BEND" and unfold it.

(b) Tear open at notch quickly.

(c) Remove and unfold the wipe, allowing the mesh screen containing the crushed glass ampoules to fall to the ground.

(8) Use the decon packet for 2 minutes, then follow procedures outlined for decon 1 wipe in steps 2. a. through e.

(9) Decontaminate protective gloves.

(10) Decontaminate your hands.

(a) Peel the protective glove down to expose affected area of the hand.

NOTE: Glove should be removed only far enough to expose affected area. Do not remove glove completely.

(b) Decontaminate affected area using steps provided in performance step 2.

1. Decontaminate the hands.

2. Decontaminate the inside of the gloves.

NOTE: Use replacement gloves if available, or place tape or other barrier over the hole.

(c) Replace glove under the overgarment sleeve.

(11) Decontaminate the face.

(a) If your face is contaminated, decontaminate your face first and then your mask.

WARNING: Pay particular attention to affected areas surrounding the corners of your mouth, eyes, and nose as shown in figure 1.

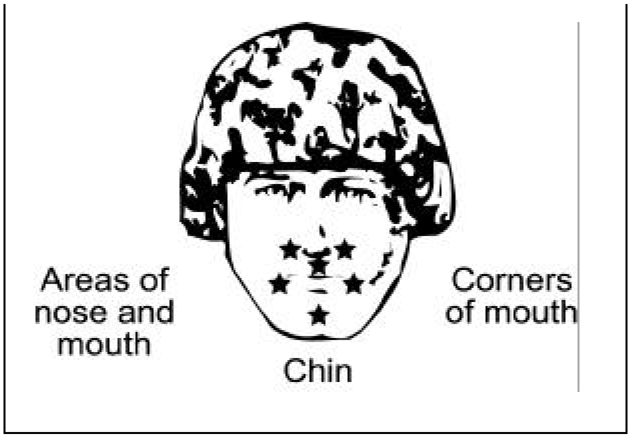

Areas of nose and mouth
Chin
Corners of mouth

Figure 1

Do not scrub above area indicated by the dotted line as shown in figure 2. Decon solutions can be harmful if gotten into the eyes.

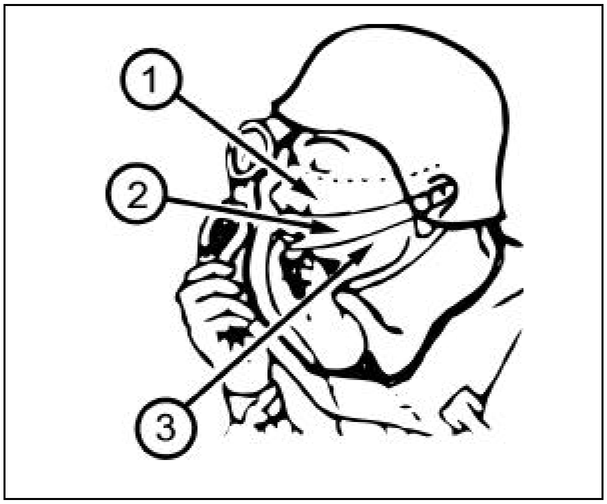


Figure 2

(b) Remove your helmet.

(c) Hold your breath, close your eyes, and lift the hood and mask from your chin to expose contaminated area.

(d) Scrub area 1 (figure 2)

1. Start at either ear and cross face to corner of nose.
2. Scrub extra stroke.
3. Scrub across nose to opposite side of nose.
4. Scrub an extra stroke.
5. Scrub across face to other ear.

NOTES: Decon packet 1 should be used a minimum of one minute.

Should you become short of breath before completing skin decon, reseal, clear, check mask, and then breathe. Continue skin decon.

6. Scrub area 2 (figure 2)
    - a. Scrub up and down, across cheek, to corner of mouth.
    - b. Scrub extra stroke.
    - c. Scrub across closed mouth to center of upper lip.
    - d. Scrub extra stroke above upper lip.
    - e. Scrub across closed mouth to corner of mouth.
    - f. Scrub across cheek to the end of the jawbone.
7. Scrub area 3 (figure 2)
    - a. Scrub up and down, across and under the jaw, to the chin.
    - b. Cup your chin.
    - c. Scrub across and under your jaw to the end of your jawbone.

8. Turn your hand outward and quickly wipe the inside of the mask that touches your face.

NOTE: Do not wipe mask lens. The decon solution will leave residue on the lens impairing your vision.

9. Immediately seal the protective mask; clear it and check it.

10. Use the same decon 1 wipe to scrub neck and ears, and rewipe hands.

11. Discard decon wipe.

b. Decontaminate individual equipment using the M258A1 Skin Decontamination Kit.

NOTE: Do not use the decontaminating kit on protective overgarments.

(1) Decontaminate weapons, gloves, helmet, and hand tools using decon 1 wipe first, then decon 2 wipe.

(2) Decontaminate the exterior of the hood and mask.

(a) Wipe eyelens outserts using a decon 2 wipe.

(b) Begin wiping the hood at the top working your way downward.

(c) Repeat these steps using a decon 1 wipe.

NOTE: Using the wipes in this order will prevent a residue from forming on the eyelens outserts.

c. Decontaminate skin using the M291 Skin Decontamination Kit.

(1) Remove one skin decon packet from the carrying pouch.

NOTE: Although any notch may be used to open the packet, opening at TEAR LINE will place the applicator in a position that is easier to use.

(2) Tear the packet open quickly at the notch.

(3) Remove the applicator pad from the packet.

(4) Discard the empty packet, observing litter discipline.

(5) Unfold the applicator pad and slip finger(s) into the handle.

NOTE: For the following decontamination procedures, use the entire surface of the applicator pad.

(6) Scrub the exposed skin of the back of the hand, palm, and fingers until completely covered with black powder from the applicator pad.

(7) Switch the applicator pad to the other hand and repeat step 6.

NOTE: Do not discard the applicator pad at this time.

(8) Start the procedures to decontaminate the exposed skin of your face. At the completion of steps 10 through 16, your face will be completely covered with black powder from the applicator pad.

WARNING: Death or injury may result if you breathe toxic agents while decontaminating your face. If you need to breathe before you finish, reseal your mask, clear it, and check it. Get your breath, and then resume the decontaminating procedure.

(9) Hold your breath, close your eyes, grasp the mask beneath the chin, and pull hood and mask away from chin enough to allow one hand between the mask and your face. Hold your mask in this position during steps 11 through 15.

NOTE: The corners of the mouth, areas of the nose and mouth, and chin are areas that are difficult to decontaminate. You should pay extra attention to these areas when decontaminating.

(10) Scrub up and down across your face beginning at front of one ear to nose to other ear.

  (a) Scrub across your face to the corner of your nose.

  (b) Scrub an extra stroke at the corner of your nose.

  (c) Scrub across nose and tip of nose to the corner of your nose.

  (d) Scrub an extra stroke at the corner of your nose.

  (e) Scrub across your face to your other ear.

(11) Scrub up and down across your face beginning where step 10 ended, to your mouth, to the other end of your jawbone.

  (a) Scrub across your cheek to the corner of your mouth.

  (b) Scrub an extra stroke at the corner of your mouth.

  (c) Scrub across your closed mouth to the center of your upper lip.

  (d) Scrub an extra stroke at the center of your upper lip.

  (e) Scrub across your closed mouth to the corner of your mouth.

  (f) Scrub an extra stroke at the corner of your mouth.

  (g) Scrub across your cheek to the end of your jawbone.

(12) Scrub up and down across your face beginning where step 11 ended, to your chin, and to the other end of your jawbone.

  (a) Scrub across and under your jaw to your chin, cupping your chin.

  (b) Scrub an extra stroke at the cleft of your chin.

  (c) Scrub across and under your jaw to the end of your jawbone.

(13) Turn your hand out and quickly scrub the inside portions of the mask that touch your face.

(14) Discard the applicator pad.

(15) Immediately seal, clear, and check your mask. Resume breathing.

(16) Remove the second skin decon packet from the carrying pouch.

(17) Tear open the packet quickly at the notch.

(18) Remove the applicator pad from the packet and discard the empty packet.

(19) Unfold the applicator pad and slip your finger(s) into the handle.

(20) Without breaking the seal between your face and the mask, thoroughly scrub the skin of your neck and ears until they are completely covered with black powder.

(21) Rewipe hands again until they are completely covered with black powder.

(22) Discard applicator pad.

(23) Put on your protective gloves.

(24) Fasten your hood.

(25) Remove the powder with soap and water when operational conditions permit.

d. Decontaminate individual equipment using the M295 Individual Equipment Decontamination Kit.

(1) Remove one decon packet from the pouch.

(2) Tear the packet open quickly at any notch.

(3) Remove the decon mitt.

(4) Discard the empty packet.

(5) Unfold decon mitt.

(6) Decontaminate your protective glove.

  (a) Grasp green (non-pad) side of decon mitt with hand that you don't write with.

  (b) Scrub the other gloved hand with decon mitt to start the flow of decon powder onto glove.

  (c) Rub glove with decon mitt until completely covered with decon powder.

(7) Don decon mitt.

  (a) Insert your decontaminated glove inside the decon mitt.

  (b) Make sure the pad side is in the palm of the hand.

  (c) Make sure your thumb sticks through the appropriate thumbhole.

  (d) Tighten the wristband in the glove hand securely.

(8) Decontaminate the other protective glove by rubbing thoroughly with pad side of the decon mitt until it is covered with decon powder.

(9) Decontaminate individual equipment by rubbing with pad side of the decon mitt until thoroughly covered with decon powder. Pay special attention to areas that are hard to get into (for example, cracks, crevices, and absorbent materials).

  (a) Decontaminate the exposed areas of your mask and hood.

  (b) Decontaminate your weapon.

  (c) Decontaminate your helmet by scrubbing it with decon mitt.

(10) Discard decon mitt.

(11) Remove another decon packet from the pouch.

(12) Tear the packet open quickly at any notch, remove the decon mitt, and discard the empty packet.

(13) Unfold decon mitt.

(14) Decontaminate your protective glove.

(15) Don decon mitt.

(16) Finish decontaminating your individual equipment.

  (a) Decontaminate your 782-gear and accessories (canteen, ammo pouch, first aid pouch, etc.)

  (b) Decontaminate your mask carrying case.

  (c) Decontaminate your protective boots.

  (d) Repeat the decon of your protective gloves.

(17) If liquid contamination is still suspected or detected, get another packet and repeat steps 1 through 7. Then rub or blot areas where contamination is still suspected or detected.

(18) Discard decon mitt.

NOTE: Decon powder is not harmful to equipment. However, you should clean your equipment when conditions permit.

4. Continue the mission.

REFERENCE(S):

MCWP 3-37.3, *NBC Decontamination*

TASK: **MCCS.20.08 (CORE) EXCHANGE MOPP GEAR**

CONDITION: **GIVEN A DECONTAMINATION KIT, A NEW PROTECTIVE ENSEMBLE, A PARTNER, AND A SECURE UNCONTAMINATED ENVIRONMENT WHILE IN MOPP 4.**

STANDARD: **TO ACHIEVE THE PERFORMANCE STEPS PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a simulated chemical, biological, or radiological scenario in a combat environment, the Marine and an assistant (buddy) will be provided decontaminates applicable to the scenario and a complete set of MOPP gear to include over garments, overboots, protective gloves, and field protective masks in an uncontaminated environment while dressed in contaminated MOPP 4 equipment.

Standard: The Marine must demonstrate the use of applicable decontaminates and procedures in exchanging MOPP equipment without contaminating himself or his assistant (buddy).

Administrative Notes: Chemical contamination is usually the most dangerous form of contamination and considered the most difficult to remove/neutralize. Procedures used to decontaminate chemical contamination also can be used for decontaminating biological and radiological contamination. Some decontaminants used to remove chemical contamination are caustic (a substance that burns or destroys the organic tissue by the chemical action) and are not used to reduce the hazards of other types of contamination. Buddy teams must be formed when conducting a MOPP gear exchange. Pairing two Marines to assist one another forms a buddy team.

See TASKS: **MCCS.20.06 (CORE) PERFORM NBC DETECTION MEASURES**
MCCS.20.07 (CORE) DECONTAMINATE SKIN AND PERSONAL EQUIPMENT

GENERAL INFORMATION:

Marines will form buddy teams. These team members will decontaminate each other by following all instructions from the Marine assigned to lead the exchange.

Space the teams in columns of twos, perpendicular to wind direction, with 1 to 3 meters between each team.

Pre-select the MOPP gear exchange site in an uncontaminated environment by the unit's NBC personnel. NBC specialists will prepare and mark the area, provide replacement equipment, MOPP gear, and any other logistical requirements that may be needed based on contaminates and unit mission.

The teams control the contamination spread by placing contaminated materials downwind. Contaminated clothing and equipment is placed in piles behind each team.

WARNING: Should anyone suspect that a Marine's skin or undergarments have become contaminated at any time during the exchange procedure, the process will be stopped. Decontaminate immediately, using the decontaminate equipment provided following the prescribed procedures, and proceed with the MOPP gear exchange.

PERFORMANCE STEPS:

1. *Decontaminate gear.*

a. *(Marine/Buddy)* Decontaminate chemical/biological hazard.

If	Then
No material is provided on which the decontaminated equipment may be placed, such as plastic or poncho	Decontaminate a poncho following the steps below and place it upwind of the column

(1) Cover the poncho with STB/HTH dry mix and brush or rub it into the material. Then cover your other gear and equipment with STB/HTH working from top to bottom, starting with your helmet.

(2) Gently remove excess decontaminates.

(3) Set gear aside on an uncontaminated surface such as plastic, poncho, or similar material.

b. Decontaminate radiological hazard.

(1) Brush or wipe the radiological contamination from individual equipment.

(2) Wash equipment with warm, soapy water, if available.

(3) Set equipment aside to dry on an uncontaminated surface, such as plastic, poncho, or similar material.

2. *Prepare for decontamination.*

- Loosen your buddy's neck cord and hood straps from his underarms, and reattach the Velcro patches to his hood.

3. *Decontaminate mask and hood.*

a. Decontaminate a chemical/biological hazard.

(1) Decontaminate the hood and exposed parts of your buddy's mask including the canister and/or hose with decontaminates provided. (See **TASK: MCCS.20.07 DECONTAMINATE SKIN AND PERSONAL EQUIPMENT**)

CAUTION: When decontaminating the hood and mask using the M258A1 skin decon kit, use decon packet 2 first, then decon packet 1. Start with the mask eyelens outserts and wipe from the top of the hood down. Use decon 1 wipe last to get rid of any residue remaining on the eyelense outserts. (The lens will not cloud up.)

(2) After wiping your buddy's mask, have your buddy use the decon kit to decontaminate his gloves.

b. Decontaminate radiological hazard.

(1) Wipe your buddy's mask and hood including the canister and hose with a sponge dipped in hot, soapy water.

(a) Rinse with the sponge dipped in clean water.

(b) Dry with paper towels or rags.

(2) Instruct your buddy to decon gloves.

NOTE: Cool, soapy water is not as effective for removing contamination, but if you scrub hard enough, it can be used. If no water is available, use skin decon kits.

(3) Roll your buddy's hood from bottom up.

(a) Leave the zipper closed.

(b) Lift the hood straight up and off your buddy's shoulders by grasping the straps.

(c) Pull the hood over his head until most of the back of his head is exposed but the hood is not completely over his face.

(4) Roll the hood starting at the chin and work around the mask.

(5) Roll it tightly and avoid pulling it off the back of the head.

NOTE: Do not reverse roles. Only your buddy's hood will be decontaminated and rolled at this time.

4. *Remove overgarment and overboots.*

NOTES: To prevent the spread of contamination, instruct the Marine undressing to turn around when necessary. This will limit the spread of contamination.

When removing any portion of the overgarment, avoid touching the black liner or inside of the article.

a. Remove overgarment blouse.

(1) Unfasten the jacket snaps on the back and front of your buddy's jacket, as well as the draw cord and zipper.

(2) Instruct your buddy to turn around.

(3) With your buddy's back to you, reach up and grasp the shoulders with both hands.

(4) Tell the Marine to straighten his arms and make a fist with both hands when removing the blouse. This will prevent the gloves from being pulled off.

(5) Remove the jacket by pulling it straight back and down. Do not allow the blouse to brush up against you. This procedure will turn the jacket inside out.

b. Place the jacket on the ground next to the Marine with the black uncontaminated side up.

NOTE: Your buddy will stand on the jacket later while redressing.

c. Open the trouser cuffs including zipper and Velcro, the waist snap, zipper, and, if necessary, the waist tabs on your buddy's trousers.

CAUTION: Do not kneel down on the deck to open trouser legs; you can become contaminated. It is recommended that you spread your legs and bend over at the waist to get as low and stable as possible.

d. Turn the trousers openings to the front (your buddy is still facing away from you).

f. Step onto the rear edge of the trousers with your booted foot.

g. Instruct your buddy to remove first one foot, then the other. Discard the trousers.

NOTE: Do not reverse roles. Only your buddy's overgarments are to be removed at this time.

h. Remove overboots.

(1) Make sure that your buddy is next to his jacket.

(2) Untie or cut the strings/laces of your buddy's overboots.

(3) With your buddy's back to you, reach up and grasp the shoulders with both hands.

(4) The boot nearest the jacket will be removed first. With your buddy still facing away, step on the rear of the overboot and instruct your buddy to step out of the overboot and place his boot on the uncontaminated surface of the jacket.

(5) Repeat the procedure for the other foot.

CAUTION: Do not allow your buddy to place his unprotected boot anywhere but on the jacket. Should it come into contact with soil or other contaminated surfaces, decontaminate it.

5. *Remove gloves.*

a. Have your buddy work his gloves off from the fingertips.

b. Help your buddy, if necessary, so that your buddy does not touch the outside of the gloves with bare hands.

NOTE: Do not reverse roles. Only your buddy will remove overboots and gloves at this time.

6. *Put on overgarment.*

a. Open a package of new overgarment and present it to your buddy, but do not touch the overgarment.

b. Have your buddy reach into the package and pull out the overgarment (either piece first) without touching the outside of the package.

c. Your buddy puts on the trousers and the jacket, fastens the overgarment, but leaves the trouser legs open.

NOTE: Do not reverse roles. Only your buddy will put on clean garments at this time.

7. *Put on overboots and gloves.*

a. Pick up package containing clean overboots, and open it without touching the overboots that are inside.

b. Have your buddy reach into the package without touching the outside of package, remove the overboots, and put them on. Your buddy fastens the trousers legs over his laced overboots. Make sure that all Velcro fasteners, zippers, and ties are fastened.

c. Open package containing clean gloves without touching the gloves that are inside.

d. Have your buddy remove the clean gloves from the package without touching the outside of the package, and put them on.

NOTE: Do not reverse roles. Only your buddy will put on clean overboots and gloves at this time. Make sure that the gloves and boots have a light powdery coating.

8. *Secure hood.*

a. Decontaminate protective gloves.

b. After decontaminating protective gloves, unroll your buddy's hood; attach the shoulder straps and tighten the neck cord.

c. Your buddy should check all zippers and ties on the hood and overgarments to make sure that they are closed.

10. *Secure gear.*

a. Secure individual gear.

b. Put gear back on and move to assembly area.

c. Use the buddy system to check the fit of and secure all gear.

NOTES: The effectiveness of the decon procedures just performed can be checked with the M256A1, M8 paper, or M9 tape for chemical decon. (See TASK: **MCCS.20.06 PERFORM NBC DETECTION MEASURES**.) The NBC NCO will provide other detection equipment, such as radiac instruments, necessary to determine the completeness of decontamination procedures.

Additionally, the NCOIC must maintain strict discipline over contaminated Marines to prevent unnecessary movement within the area. These procedures are necessary to control the spread of contamination.

REFERENCE (S):

MCWP 3-37.3, *NBC Decontamination*

TASK: **MCCS.20.09 (CORE) REACT TO A NUCLEAR ATTACK**

CONDITION: **GIVEN A SIMULATED NUCLEAR ATTACK WITH OR WITHOUT WARNING.**

STANDARD: **TO PREVENT INJURY OR DEATH PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided a nuclear attack scenario with or without warning. The Marine will be instructed to take immediate action.

Standard: The Marine must take immediate action to protect himself or herself from the effects of a nuclear blast. The Marine will explain all procedures that cannot be simulated.

PERFORMANCE STEPS:

1. *Take immediate action for a nuclear attack without warning.*

a. Upon seeing a brilliant flash of light, an exceptionally loud explosion, or when the alarm is sounded, immediate action must be taken. When possible, look for protective cover.

WARNING: Never hesitate in taking immediate action.

b. React without weapon.

(1) Immediately drop face down, with head toward blast, if possible. If cover is available, use it. A log, large rock, or any depression in the earth’s surface provides some protection.

(2) Close your eyes.

(3) Protect or cover exposed skin by putting hands and arms under or near the body and keeping your helmet on.

(4) Keep your head down.

c. React with weapon.

(1) Immediately drop face down, with head toward blast, if possible. If cover is available, use it. A log, large rock, or any depression in the earth’s surface provides some protection.

(2) Close your eyes.

(3) Protect or cover exposed skin by putting hands and arms under or near the body and keeping your helmet on.

(4) Make sure your weapon is placed under your body or beside you with the strap/sling wrapped tightly around your arm and the muzzle angled away from your face.

(5) Keep your head down.

d. Remain face down for 90 seconds or until all debris has stopped falling.

(1) Use any protection available such as fighting holes, whenever possible. Fighting holes provide excellent protection against nuclear weapon effects. Other examples of hasty protection may include ditches, culverts, hills, large rocks, or armored vehicles.

(2) Put anything between yourself and the nuclear weapon's blast as shown in figure 1.

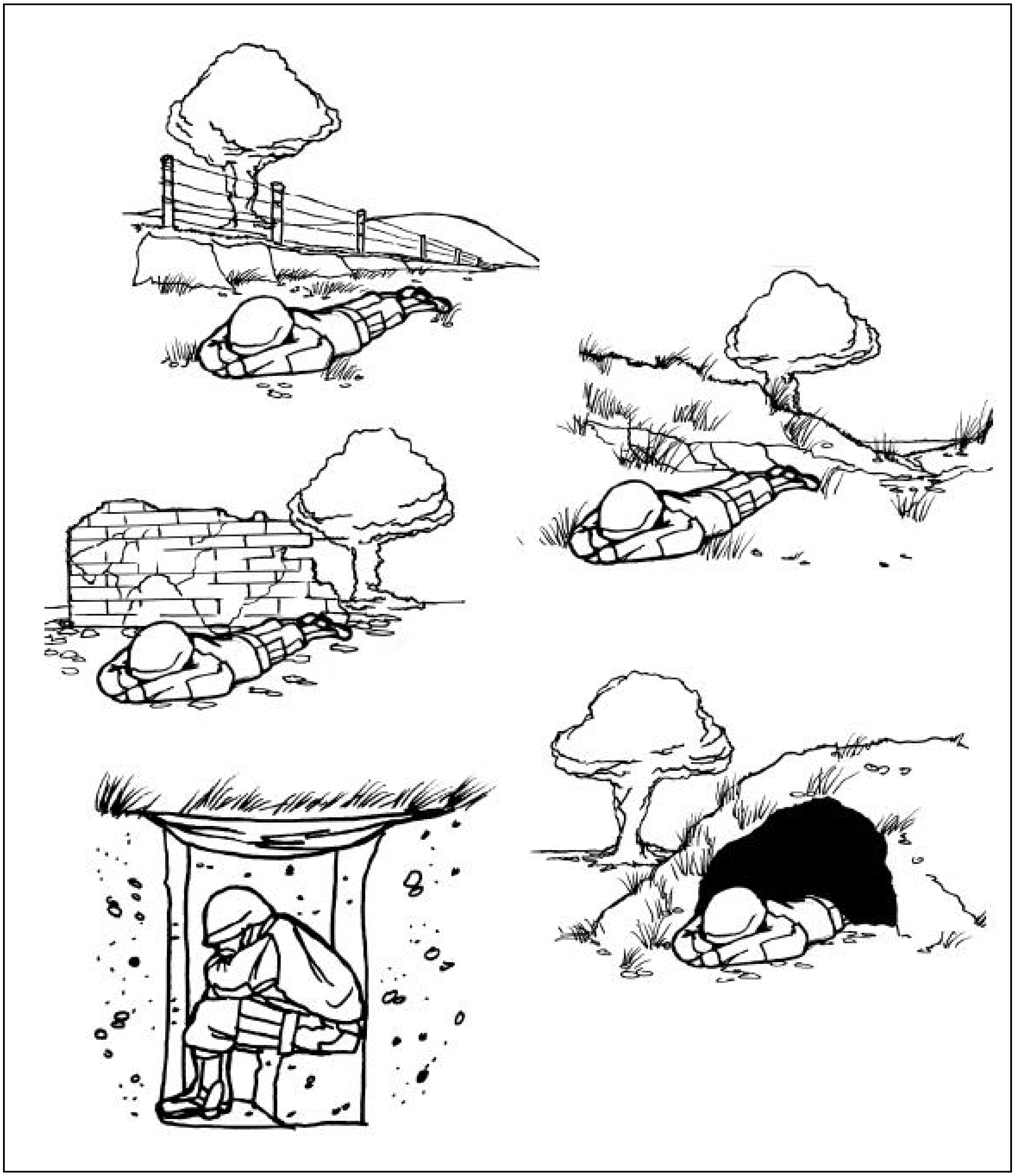


Figure 1

2. Take appropriate action for an imminent nuclear attack with a 2-minute warning.

a. If time permits, your unit will be notified that a nuclear attack is imminent. However, if time does not permit or you are caught unprotected, take advantage of any protective shelter available.

b. Staying low, move to a fighting hole or protective shelter as shown in figure 2. Other forms of protective shelter include ditches, culverts, hills, basements, tanks, etc. Fighting positions with overhead cover provide excellent protection and help reduce contact with fallout.

c. Place something substantial between you and the detonation.

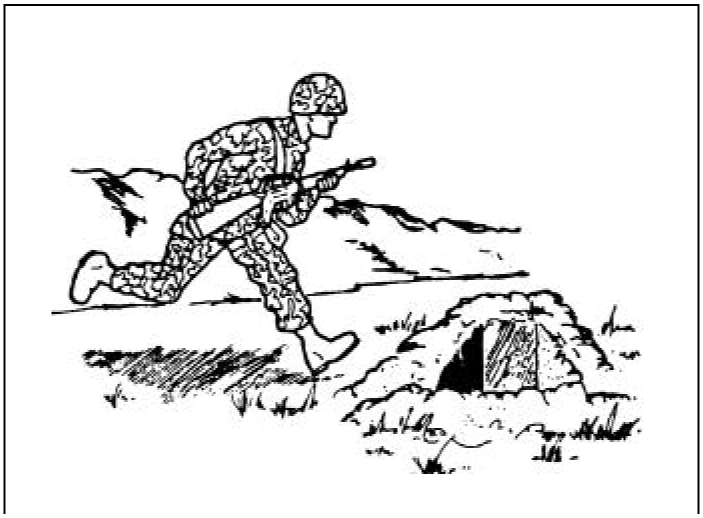


Figure 2

d. Once in your fighting hole, lie on your back with your legs drawn up to your chest as shown in figure 3.

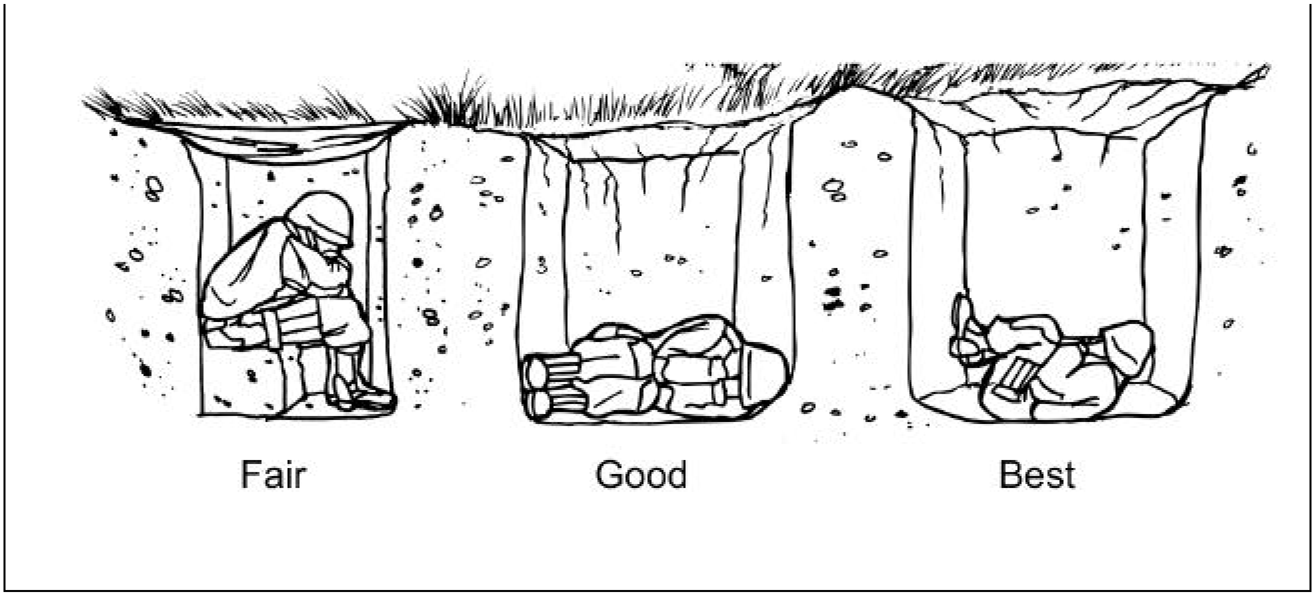


Figure 3

e. Remain in this position for 90 seconds following the blast, or until debris stops falling.

f. Once the debris has stopped falling, cover the fighting hole with material. This material will protect against possible fallout. An example might be a poncho, poncho liner, or other material large enough to cover the position as shown in figure 4.

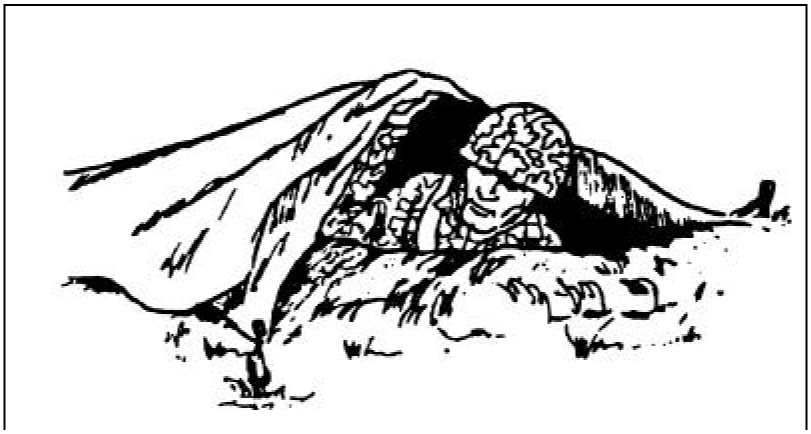


Figure 4

g. Cover all exposed skin to protect from beta burns.

h. Check yourself and others for injuries.

i. Brush any dust and dirt particles from yourself or buddy.

i. Check weapons and equipment for damage, and prepare to continue the mission.

REFERENCE(S):

MCWP 3-37.2, *Nuclear, Biological, and Chemical Protection*

TASK: **MCCS.20.10 (CORE) REACT TO A CHEMICAL OR BIOLOGICAL ATTACK**

CONDITION: **GIVEN A SIMULATED CHEMICAL OR BIOLOGICAL ATTACK, MOPP GEAR, PONCHO, AND A NBC ALARM OR ORDER.**

STANDARD: **TO PREVENT FURTHER INJURY OR DEATH PER THE REFERENCE**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a simulated chemical or biological attack, MOPP gear, poncho, and a NBC alarm or order.

Standard: The Marine must recognize and identify the attack, protect himself or herself properly with the M40 field protective mask, and take additional protection measures.

PERFORMANCE STEPS:

1. *React to a gas attack in 15 seconds or less.*

a. Stop breathing, don, clear, and check the mask.

b. Upon receiving the command or detecting a contamination presence, stop breathing and close your mouth and eyes.

CAUTION: This does not mean take one last breath.

c. Place the rifle between your legs.

d. Remove the headgear and place it on the weapon.

e. Remove eyeglasses, if you are wearing them.

CAUTION: Do not wear contact lenses with any field protective mask. Wearing contact lenses with the optical inserts will over correct your vision.

f. Remove the mask from its carrier as shown in figure 1.

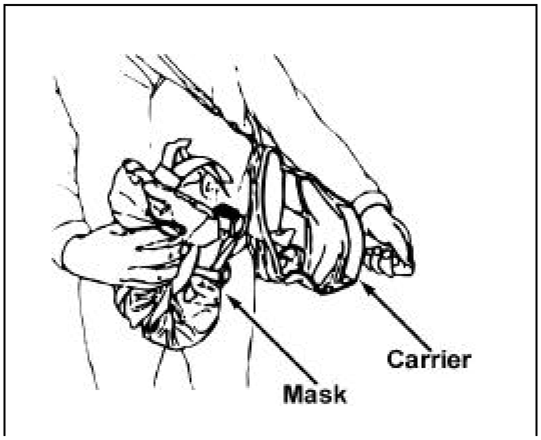


Figure 1

(1) Open the carrier with your left hand, and hold it open.

(2) Use your right hand to grasp the facepiece, and remove it from the carrier. Allow the hood to hang down in front of the mask.

g. Put your chin into the chin pocket of the facepiece. The mask is stored with the head harness pulled over the front of the mask as shown in figure 2.

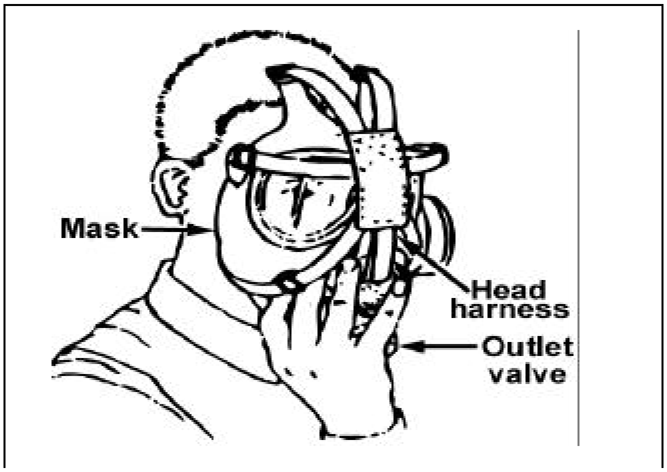


Figure 2

h. Clear the field protective mask.

(1) Cover the outlet valve with the palm of one hand as shown in figure 3.

(2) Exhale sharply so the air escapes around the edges of the facepiece.

(3) Cover the air inlet port of the canister with the palm of your free hand, and then breathe in. The facepiece should collapse against your face and remain there while holding your breath.

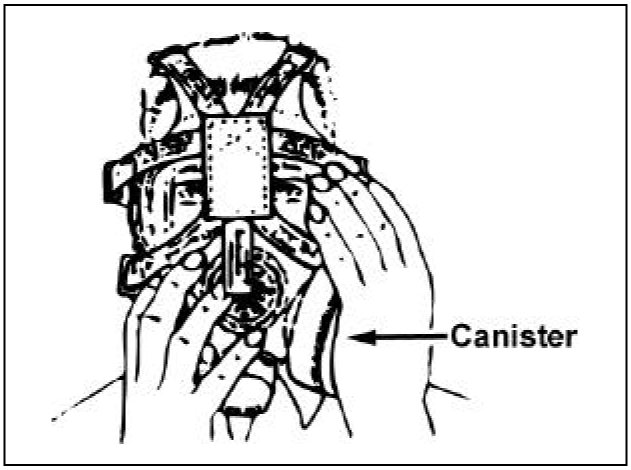


Figure 3

If	Then
Facepiece collapses	Consider it airtight
Facepiece does not collapse	Check for hair, clothing, or other interference between the facepiece and your face
	Repeat steps to clear the mask until there is an airtight seal

i. Adjust the M40 mask.

(1) Grasp the tab as shown in figure 4, and then pull the head harness over your head.

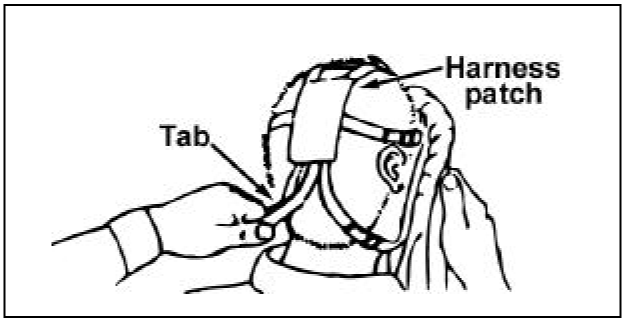


Figure 4

(2) Make sure that the square harness patch is centered comfortably in the rear of your head.

CAUTION: Make sure that unit NBC personnel properly fit your mask. The temple and forehead straps are adjusted during fitting.

(3) Maintain the seal while holding the facepiece to your face with one hand.

(4) Use your free hand to tighten the cheek straps one at a time as shown in figure 5.

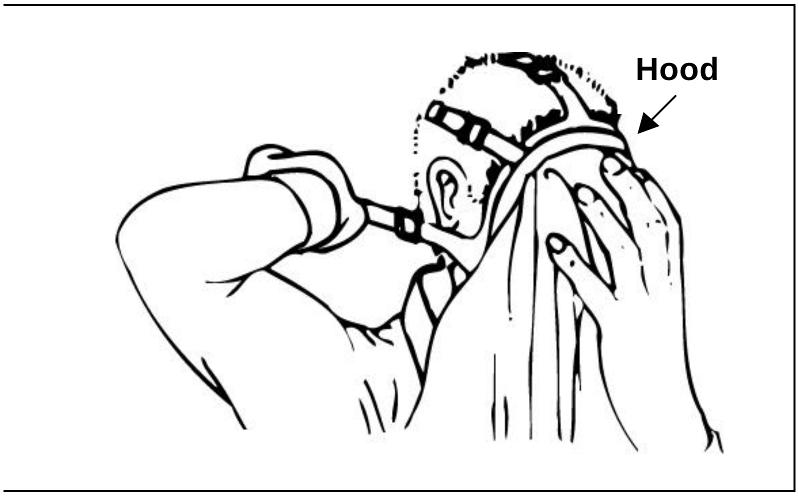


Figure 5

(5) Make sure that straps lie flat against your head.

j. Should a leak or an improper seal be suspected:

(1) Clear the field protective mask as outlined in performance step 2.g.

(2) Recheck facepiece for leaks.

WARNING: Check the mask for leaks each time you put it on. Air should circulate over the eye lenses inside the mask. If air flows in from around the edges of the mask, you may have a leak.

(3) Run your finger around the edges of the mask to check for bulging material.

(4) When time permits, have another Marine check the facepiece.

k. Resume breathing normally.

CAUTION: The mask must be donned, cleared, and sealed within 9 seconds. An additional 6 seconds is given to put the hood in place.

l. Sound the alarm to warn others.

m. Give vocal alarm for a chemical/biological attack.

(1) The universal command to put the mask on is **GAS-GAS-GAS**.

(2) The word gas is repeated three times.

n. Give visual alarm for a chemical/biological attack as shown in figure 6.

(1) The arms are extended straight out to the side and hands made into a fist.

(2) As the word **GAS** is said bend the arms at the elbows so that the fists are placed to the ears, and repeat three times.

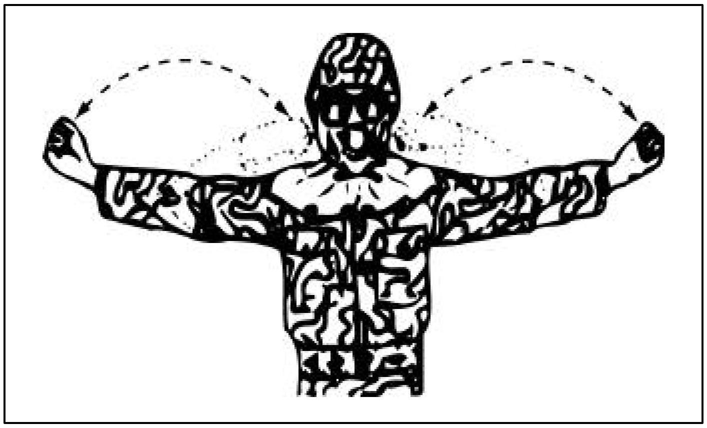


Figure 6

o. Secure weapon, helmet, and mask carrier.

p. Check for contamination and decontaminate as necessary using the buddy system if possible.

q. Assume appropriate MOPP level as directed.

r. Continue the mission.

2. React to a spray attack in 20 seconds or less.

a. Upon receiving the command of " **SPRAY-SPRAY-SPRAY,**" or recognizing a spray attack, don and clear the M40 Field Protective Mask as outlined in performance step 1.

b. Protect yourself with your poncho.

(1) The poncho should have the hood tied closed prior to movement into a possible NBC environment.

(2) Position your back to the direction of the oncoming spray.

(3) Conform yourself to the smallest position possible by kneeling or crouching close to the deck. Do not sit or put your knees on the deck.

(4) The weapon should be placed across the legs or the sling held while the buttstock rests on the boot.

(5) Drape the poncho over the entire body to include the weapon and all gear.

(6) Leave a small opening in the front of the poncho to search and assess the area.

c. Remain in this position until all contamination has fallen from the air or you receive the command of "**ALL CLEAR-UNCOVER**."

d. If possible put protective gloves on while under the poncho and close your mask carrier.

e. Remove the poncho.

   (1) Extend your arms out to the front of the body, but keep them inside or under the poncho.

   (2) Gently and carefully lift your arms and the poncho up and over the head.

   (3) To reduce the spread of contamination hold the poncho up above your head briefly to allow liquid contamination to drip backwards down the poncho to the ground.

   (4) As the poncho passes the head, lightly toss the poncho back and take a step forward. This will help prevent the poncho from catching on your gear. Care should be taken not to toss the poncho onto another Marine.

f. Check for contamination and decontaminate as necessary using the buddy system if possible.

g. Assume the appropriate MOPP level as directed.

h. Dispose of your poncho as outlined in the unit SOP.

i. Continue the mission.

REFERENCE(S):

MCWP 3-37.2, *Nuclear, Biological, and Chemical Protection*

TASK: **MCCS.20.11 (CORE) TREAT A CHEMICAL AGENT CASUALTY**

CONDITION: **GIVEN A CHEMICAL AGENT VICTIM, THE APPROPRIATE ANTIDOTE, AND A DECONTAMINATION KIT.**

STANDARD: **TO PREVENT FURTHER INJURY OR DEATH PER THE REFERENCE.**

> EVALUATION GUIDELINES TO BE USED DURING TRAINING:
>
> *Condition:* Given a chemical agent victim, the appropriate antidote, and a decontamination kit.
>
> *Standard:* The Marine must prevent further injury or death from a chemical agent per the reference.

PERFORMANCE STEPS:

1. *Identify the symptoms of nerve agent poisoning.*

a. Mild symptoms. Casualties may be coherent and experience one or all of the following:

(1) Unexplained runny nose

(2) Unexplained sudden headache

(3) Drooling

(4) Difficulty with vision (dimness of vision)

(5) Tightness in chest/difficulty in breathing

(6) Localized sweating/muscle twitching in contaminated area of the skin

(7) Stomach cramps

(8) Nausea

NOTES: With mild symptoms, self-aid is a viable option.

Using Nerve Agent Pyrodostigmine Pretreatment (NAPP), a standard issue pretreatment used in combating nerve agent poisoning, will counter react the effects of the agent depending on the length of exposure to and concentration of the agent.

b. Severe symptoms. Casualties can experience most or all of the mild symptoms and most or all of the following symptoms:

(1) Strange or confused behavior

(2) Wheezing, severe difficulty in breathing, and coughing

(3) Red eyes with possible tearing

(4) Vomiting

(5) Severely pinpointed pupils

(6) Severe muscular twitching and general weakness

(7) Involuntary urination and defecation

(8) Convulsions

(9) Unconsciousness

(10) Respiratory failure

2. *Treating a nerve agent casualty.*

a. Take steps to protect yourself and warn others.

(1) Stop breathing, don, clear, and check the mask.

(2) Upon receiving the command or detecting a contamination presence, stop breathing and close your mouth and eyes.

CAUTION: This does not mean take one last breath.

(3) Place the rifle between your legs.

(4) Remove the headgear and place it on the weapon.

NOTE: If wearing eyeglasses, remove them.

CAUTION: Do not wear contact lenses with field protective mask. Wearing contact lenses with the optical inserts will over correct your vision.

(5) Remove the mask from its carrier as shown in figure 1.

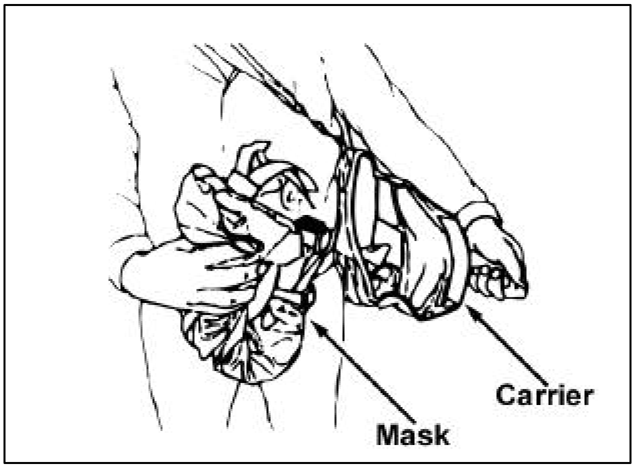


Figure 1

(6) Open the carrier with your left hand and hold it open.

(7) Use your right hand to grasp the facepiece, and then remove it from the carrier. Allow the hood to hang down in front of the mask.

(8) Put your chin into the chin pocket of the facepiece. The mask is stored with the head harness pulled over the front of the mask as shown in figure 2.

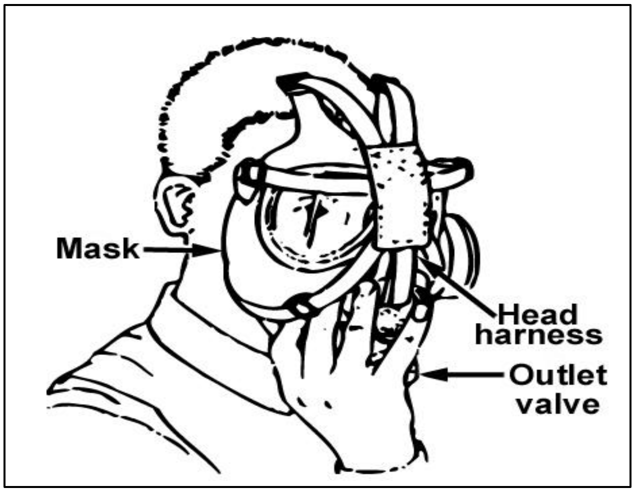


Figure 2

(9) Clear the field protective mask.

(10) Cover the outlet valve with the palm of one hand as shown in figure 3.

(11) Exhale sharply so the air escapes around the edges of the facepiece.

(12) Cover the air inlet port of the canister with the palm of your free hand, and then breathe in. The facepiece should collapse against your face and remain there while holding your breath.

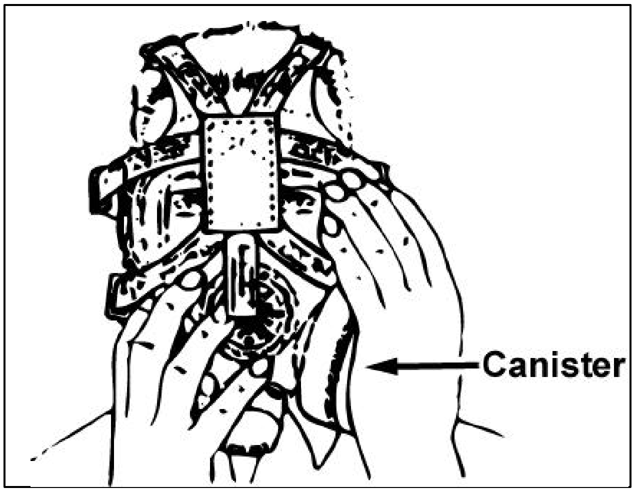


Figure 3

IF…	**THEN…**
Facepiece collapses	Consider it airtight.
Facepiece does not collapse	Check for hair, clothing, or other interference between the facepiece and your face.
Repeat steps to clear the mask until there is an airtight seal.	

(13) Grasp the tab as shown in figure 4, then pull the head harness over your head.

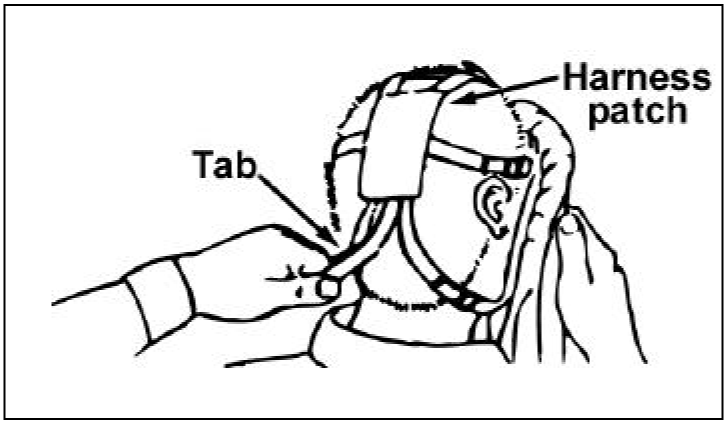


Figure 4

(14) Make sure the square harness patch is centered comfortably on the rear of your head.

CAUTION: Make sure unit NBC personnel properly fit your mask. The temple and forehead straps are adjusted during fitting.

(15) Maintain the seal while holding the facepiece to your face with one hand.

(16) Use your free hand to tighten the cheek straps one at a time as shown in figure 5.

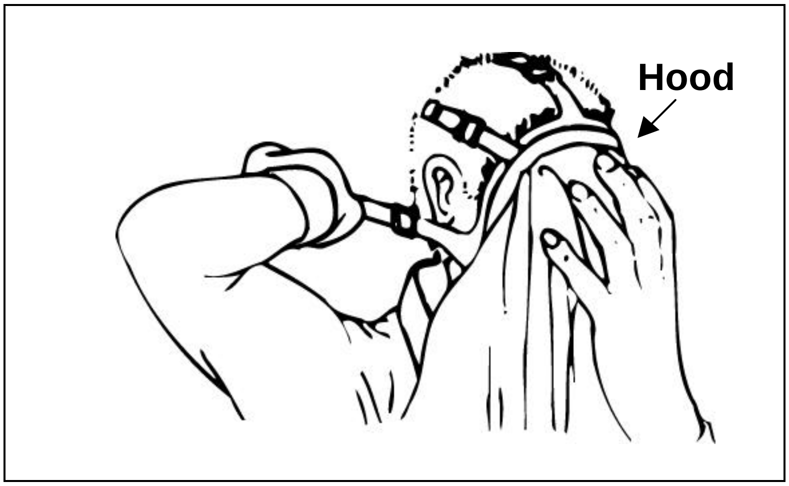


Figure 5

(17) Make sure the straps lie flat against your head.

(18) Should a leak or an improper seal be suspected,

(a) Clear the field protective mask as outlined in performance step 7.

(b) Recheck facepiece for leaks.

WARNING: Check the mask for leaks each time you put it on. Air should circulate over the eyelenses inside the mask. If air flows in from around the edges of the mask, you may have a leak.

(19) Run your finger around the edges of the mask to check for bulging material.

(20) When time permits, have another Marine check the facepiece.

(21) Resume breathing normally.

CAUTION: The mask must be donned, cleared, and sealed within 9 seconds. An additional 6 seconds is given to put the hood in place.

(22) Sound the alarm to warn others.

(23) Give visual alarm for a chemical/biological attack.

(24) The universal command to put the mask on is **GAS-GAS-GAS**.

(25) The word gas is repeated three times.

(26) Give vocal alarm for a chemical/biological attack as shown in figure 6.

(27) The arms are extended straight out to the side and hands made into a fist.

(28) As the word **GAS** is said, bend the arms at the elbows so the fists are placed to the ears, then repeat three times.

b. Administer self-aid if you feel any mild symptoms of nerve agent poisoning.

c. Decontaminate exposed skin as necessary.

d. Assume the appropriate MOPP level as directed.

e. Leave the casualty in the position he is found, when possible. Reposition the casualty only when it is necessary to don, to clear and adjust his mask, or to administer medication.

f. Mask the casualty.

(1) Ensure the casualty is on his back.

(2) Place the mask on the casualty.

(3) Tighten the head harness straps.

(4) Instruct the casualty to clear the mask if he can follow instructions.

(5) Check for a complete seal by covering the inlet valve of the mask.

(6) Pull the hood over the casualty's head, neck, and shoulders.

g. Evaluate the casualty's condition and determine the proper amount of medication to administer.

h. Administering nerve agent antidote (figure 6).

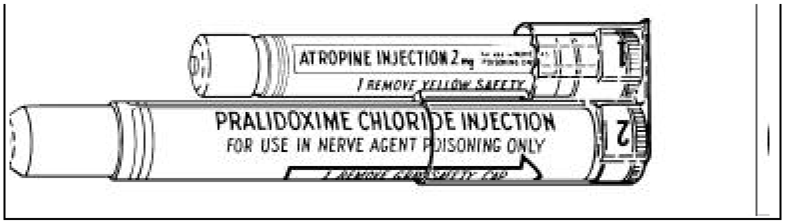

ATROPINE INJECTION 2mg
1 REMOVE YELLOW SAFETY
PRALIDOXIME CHLORIDE INJECTION
FOR USE IN NERVE AGENT POISONING ONLY
1
2

Figure 6

(1) Remove auto injectors from the casualty's mask carrier.

(2) With one hand, hold one set of injectors by the plastic retaining clip as shown in figure 7.

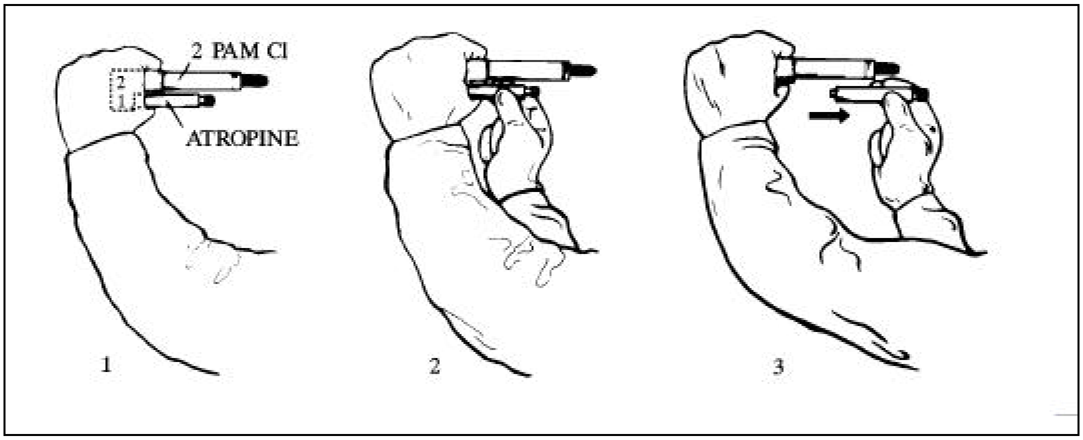


Figure 7

(3) With your free hand, check the casualty's thigh to avoid buttons or other objects in his pockets.

(4) Grasp injector 1, the small injector (Atropine), and then pull it from the clip with a smooth motion.

(5) Form a fist around the injector without covering or holding the needle (green) end. The injector is armed! Do not place your thumb over the green (needle) part of the injector because you might accidentally inject yourself.

(6) Place the green end of the injector against the casualty's outer thigh muscle as shown in figure 8.

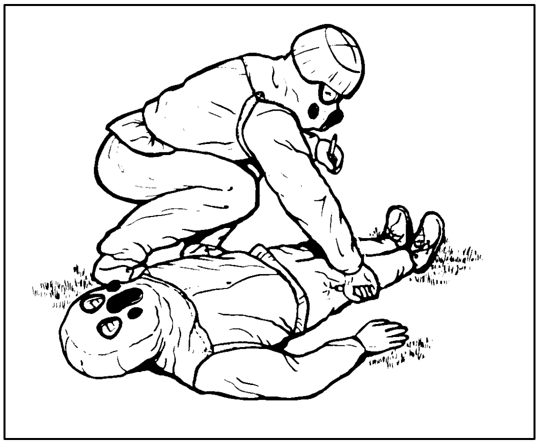


Figure 8

(7) To avoid the casualty from sustaining additional damage, do not inject areas surrounding the knees, hips, or the bones. Inject a thin casualty in the upper, outer part of his buttocks as shown in figure 9.

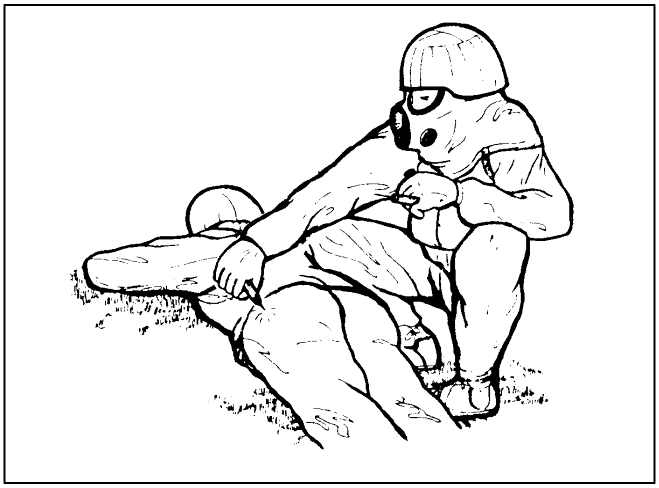


Figure 9

(8) Push the injector into the casualty's thigh with firm, even pressure until the injector functions and hold the injector in place for at least 10 seconds.

(9) For mild symptoms, administer one Mark I kit and wait 5 minutes. If symptoms persist, re-administer every 5minutes for a maximum of three sets. For advanced nerve agent poisoning, administer Mark I kits, one after the other for a maximum of three.

i. Administer 2 Pam Chloride injection.

(1) Pull out the large injector, as shown in figure 10, and then form a fist around it. Avoid placing your thumb over the black (needle) tip.

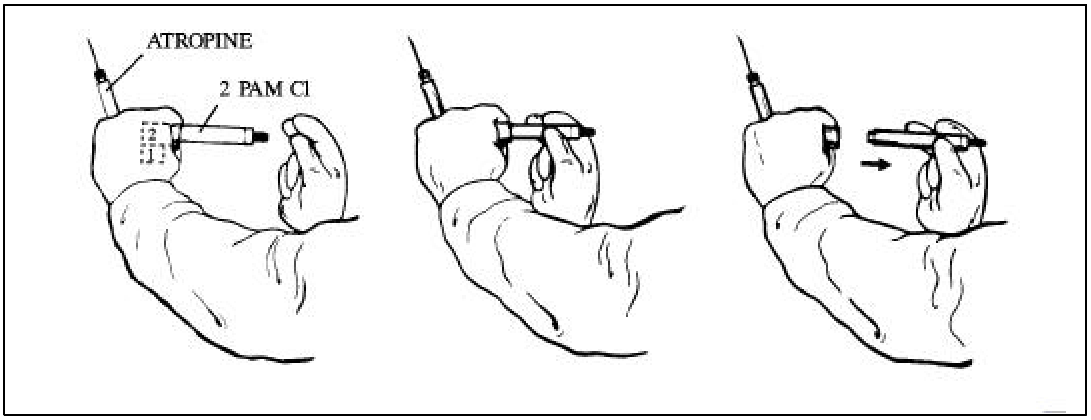


Figure 10

(2) Place the black (needle) end against the casualty's thigh.

(3) Push the injector into the casualty's muscle with firm, even pressure until the injector functions. And hold the injector in place for at least 10 seconds.

(4) If required, repeat until the casualty has received a total of three sets of antidote injections.

j. Secure used injectors.

(1) Push the needle of each used injector through one of the breast pocket flaps of the casualty's protective over garment as shown in figure 11.

(2) Bend the needlepoints to form a hook without tearing or puncturing your protective gloves or clothing.

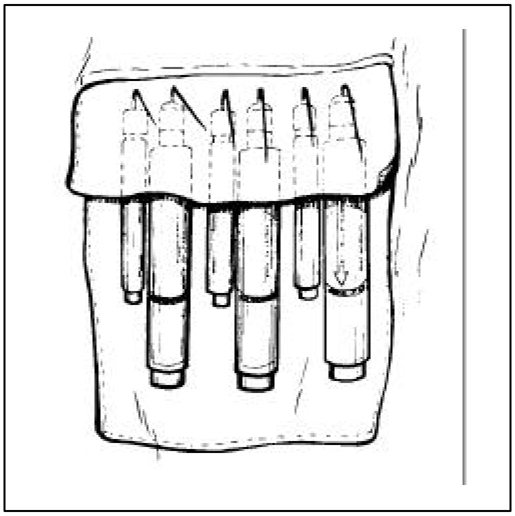


Figure 11

k. Administer Chemical Agent Nerve Antidote (CANA) if victim is convulsing.

(1) The CANA auto injector looks similar to that of the 2 Pam Chloride in the Mark I kit.

(2) Exercise extreme care to prevent improper usage of the CANA. Improper usage of the CANA can be fatal to the casualty.

(3) Use CANA only as an anticonvulsant to combat nerve agent poisoning.

(4) Locate the CANA. Location and storage of the CANA will vary according to unit SOPs.

(5) Treat convulsions immediately. It may be necessary to restrain the casualty while injecting with CANA.

(6) The CANA auto injector is administered in the same manor as the Mark 1 kit.

(7) The CANA auto injector is secured in the pocket in the same manor as the Mark 1 kit.

l. Resuscitate a nerve agent casualty if necessary.

(1) Carefully roll the casualty over if he is on his back. Before rolling the casualty over, ensure that he is masked and that applicable medication has been administered.

(2) Loosen casualty's war belt.

(3) Check to see if the casualty is wearing body armor and remove it if applicable.

(4) Cross the casualty's arms across his chest and cross his legs.

(5) Grasp the casualty by his overgarment and roll him away from you to reduce the spread of contamination.

(6) Turn the casualty's head to the side and ensure that the voicemitter/outlet valve assembly is not buried in the ground.

(7) Stand over the casualty at the waist and locate casualty's shoulder blades.

(8) With both hands, apply pressure in a sharp down direction to the middle of the casualty's back just below the shoulder blades to force air out of the casualty's lungs.

(9) Place your hands under the casualty's arms (in armpits) and lift him about 18 to 24 inches from the deck.

(10) Ease the casualty back to the deck.

(11) Perform this procedure 10 to 12 times per minute at a steady and uniform rate.

(12) Continue to perform this procedure until you are too physically exhausted to continue, are relieved by medical personnel or another Marine, or casualty resumes breathing on his own.

m. Treat the casualty for shock and seek medical attention.

n. MEDEVAC the casualty as soon as possible.

3. *Identify the symptoms of blood agent poisoning.*

- Casualties may experience one or all of the following symptoms:

(1) Vertigo

(2) Headache

(3) Nausea

(4) Tightness in chest/coughing

(5) Irritation of the eyes, nose, and throat

(6) Increased depth of respiration within seconds

(7) Labored breathing resulting from an increased need for oxygen or inadequate air exchange in the lungs (Dyspnea)

(8) Possible, a persistent cough with much frothy sputum

(9) Discoloration of the casualty's lips and finger tips

(10) Convulsions in 20 to 30 seconds

(11) Coma

4. *Treat a blood agent casualty.*

- Surviving a blood agent attack primarily depends on the concentration and length of exposure. Marines who fail to perform proper immediate action will likely become casualties. Due to the rapid effects of this chemical agent, there is currently no antidote to combat it.

(1) Immediately mask the casualty.

(2) Treat the casualty for shock.

(3) MEDEVAC the casualty as soon as possible.

5. *Identify the symptoms of blister agent poisoning.*

- For instructional purposes, all blister agent symptoms have been grouped together. Symptoms and agent effects depend on agent concentration, length of exposure, and specific type of agent.

(1) Nausea

(2) Dizziness

(3) Itching or tingling of the skin

(4) Vomiting

(5) Cramps

(6) Diarrhea

(7) Reddening of the skin

(8) Immediate and intense pain, particularly in the eyes and respiratory tract

(9) Inflammation and blisters

(10) Blindness

(11) Wheals or welts/small hard blisters

(12) Coughing up blood

(13) Shock

NOTE: Some blister agents, particularly arsenicals, will create spontaneous casualties. The symptoms listed above will be quickly noted. Even though other blister agents (e.g., vesicants) will create casualties, the symptoms may develop over time with no noticeable, immediate effects.

6. *Treat a blister agent casualty.*

a. Mask the casualty.

b. Decontaminate the casualty's eyes, if necessary. (See TASK: **MCCS.20.5 PERFORM BASIC FUNCTIONS WHILE IN MOPP 4**.)

c. Decontaminate the casualty's exposed skin, if necessary. (See TASK: **MCS.20.07 DECONTAMINATE SKIN AND PERSONAL EQUIPMENT USING DECONTAMINATING KIT**.)

WARNINGS: Do not use the Skin Decon Kit to decontaminate the casualty's eyes. Doing so will aggravate the casualty's condition and will cause him extensive damage.

Do not open blisters. Cover them loosely with a field dressing and secure.

Should a blister open, treat it as an open wound. (See TASK: **MCCS.21.01 PERFORM THE FOUR BASIC LIFE SAVING STEPS**.)

d. Dress the casualty to MOPP 4.

e. Treat the casualty for shock.

f. MEDEVAC the casualty as soon as possible.

7. *Identify the systems of choking agent contamination.*

a. With ordinary field exposure, death will probably not occur. However, prolonged exposure to high concentrations of the vapor and neglect or delay in the masking can be fatal.

(1) Headaches

(2) Nausea

(3) Tightness in chest

(4) Tears/watery eyes

(5) Dry throat

(6) Vomiting

(7) Hacking cough

(8) Rapid shallow breathing

(9) Red/pinkish sputum

(10) Shock

8. *Treat a choking agent casualty.*

a. Mask the casualty.

b. Treat the casualty for shock.

c. MEDEVAC the casualty as soon as possible.

NOTE: Monitor the casualty to ensure that his airway does not become blocked by material he coughs up. It may be necessary to place the casualty on his side to clear his airway.

9. *Identify the symptoms of Riot control agent contamination.*

- Casualties may experience any of the following symptoms:

  (1) Sneezing

  (2) Runny nose

  (3) Slight tearing

  (4) Pepper-like taste

  (5) Involuntary closing of the eyes

  (6) Profuse tearing

  (7) Coughing

  (8) Severe irritation of the upper respiratory tract

10. *Treat a riot control agent casualty.*

a. Assist the casualty in masking.

b. Move the casualty to an uncontaminated area (upwind is recommended), expose the casualty to fresh air, and have the casualty face into the wind.

c. Wash or rinse exposed skin.

d. If contamination, in liquid or solid form, has gotten into the eyes, force open the eyes and flush with large amounts of water.

WARNING: Do not touch your face or rub your eyes. Doing so can cause an intense burning sensation in the affected areas.

REFERENCE(S):

MCRP-4-11.1A, *Treatment of Chemical Agents Casualties and Conventional Military Chemical Agents*

TASK: **MCCS.20.12 (CORE) COMPLY WITH DEPLETED URANIUM (DU) SAFETY PROCEDURES**

CONDITION: **GIVEN A SIMULATED CONTAMINATED ENVIRONMENT AND/OR GEAR.**

STANDARD: **TO ACHIEVE PERFORMANCE STEPS PER THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a simulated contaminated environment and/or gear.

Standard: The Marine must comply with depleted uranium (DU) safety procedures per the references.

PERFORMANCE STEPS:

1. *Determine if DU is present.*

a. DU will not prevent the accomplishment of the mission when actively engaged in combat.

b. DU can only be positively confirmed with AN/VDR-2 and AN/PDR77 radiac meters.

c. DU may be present if

  (1) Radiac meters indicate

  (2) You recognize expended or damaged DU penetrators or parts of penetrators

2. *Identify hazards associated with DU residue.*

  a. DU dust can be ingested or inhaled.

  b. DU fragments can cause injuries.

  c. Extreme large amounts can cause kidney damage.

3. *Apply safety precautions when exposed to DU.*

  a. Protect self with M40.

  b. Cover exposed skin.

  c. Dust uniform.

  d. Leave all penetrators alone.

  e. Remain 50 meters away from hazard.

  f. Wash hands, face, and exposed skin to prevent transfer and ingestion of DU.

4. *Evacuate immediate area.*

  a. Move all personnel at least 50 meters away from hazard.

  b. Move all uncontaminated gear and equipment from hazard area.

  c. Contact your chain of command.

REFERENCE(S):

TSP TA-031-DUA-001 *Depleted Uranium Training Support Package*
MARADMIN 107/98 *DU Awareness Training*
BUMEDINST 6470.10, *U.S. Navy Bureau of Medicine Instruction*

TASK: **MCCS.21.01 (CORE) PERFORM THE FOUR BASIC LIFESAVING STEPS**

CONDITION: **GIVEN A CASUALTY AND A FIRST AID KIT.**

STANDARD: **TO PREVENT FURTHER INJURY OR DEATH PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided a combat casualty, the first aid kit, and the appropriate materials.

Standard: The Marine must apply basic first aid including all basic life support, treatment of burns, soft tissue injuries, and splint fractures. The Marine must also adhere to the safety precautions for those treatments.

PERFORMANCE STEPS:

1. *Open the airway and start the breathing.*

a. Place the casualty on his or her back and kneel beside casualty's head.

b. Clear the airway by removing any obstruction in the mouth.

c. Place your hand (the hand nearest the casualty's feet) under the neck and put your other hand on the casualty's forehead as shown in figure 1.

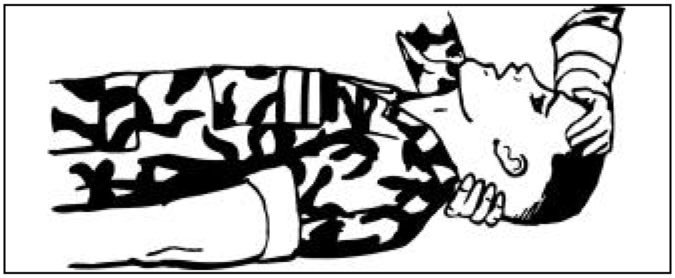


Figure 1

d. Check for breathing (look, listen, and feel).

(1) Look towards the casualty's chest, observing for the rise and fall of his or her chest as shown in figure 2.

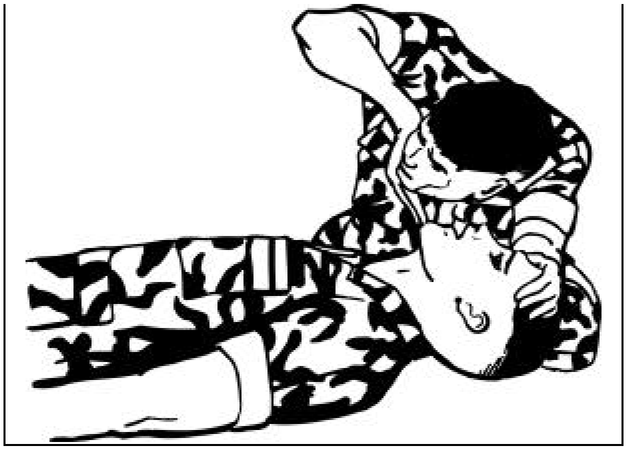


Figure 2

(2) Listen for the sounds of breathing.

(3) Feel chest for signs of breathing.

e. Restore breathing, using one of the methods below.

(1) Perform mouth-to-mouth/mouth-to-nose resuscitation.

(a) Evaluate the casualty.

1. Check for unresponsiveness. Gently shake the casualty and ask, "Are you O.K.?"

2. If the casualty does not respond, call for help.

(b) Position the casualty.

1. Lay the casualty on his or her back on a firm surface.

2. If the casualty is lying on his or her chest, cautiously roll the casualty onto his or her back, as a unit, so that the body does not twist.

a. Straighten the casualty's legs.

b. Take the casualty's arm that is nearest to you and move it so that it is straight and above his or her head.

c. Repeat the procedures for the other arm.

d. Kneel beside the casualty with your knees near the casualty’s shoulders, leaving space to roll the body.

e. Place one hand behind the head and neck for support.

f. With your other hand, grasp the casualty under his or her arm.

g. Roll the casualty towards you using a steady and even pull.

NOTE: The casualty’s head and neck should stay in line with his or her back.

h. Return the arms to the casualty's side.

i. Straighten the legs.

(c) Open the airway of an unconscious casualty.

NOTES: The tongue is the most common cause of an airway obstruction. In most cases, the airway can be cleared by extending the neck, which pulls the tongue away from the air passage in the throat as shown in figure 3.

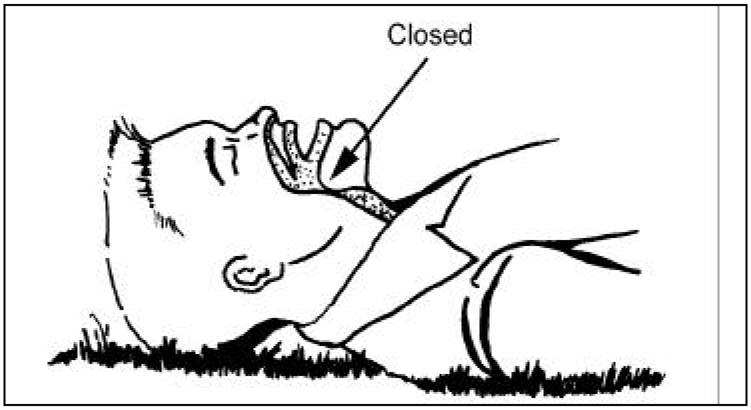


Figure 3

1. Move (roll) the casualty onto his or her back.

CAUTION: Take care in moving a casualty with a possible neck or back injury. Moving an injured neck may permanently injure the spine.

2. Perform either the head-tilt neck lift, the head-tilt chin lift, or the jaw-thrust technique to open the airway.

Step	**Head-tilt neck lift technique as shown in figure 4**	**Head-tilt chin-lift technique as shown in figure 5**	**Jaw-thrust technique as shown in figure 6**
1	Kneel beside the casualty's head and place one hand on the forehead.	Kneel beside the casualty's head and place one hand on his or her forehead.	Place hands at the angles of the casualty's lower jaw on both sides.
2	Place the other hand under the neck.	Place your fingertips of your other hand under casualty's chin.	Displace the jaw by tilting the head backwards.
3	Gently lift the hand under the neck and press down with the hand on the forehead.	While pressing on casualty's forehead to tilt the head back, lift his or her chin forward to open his airway.	

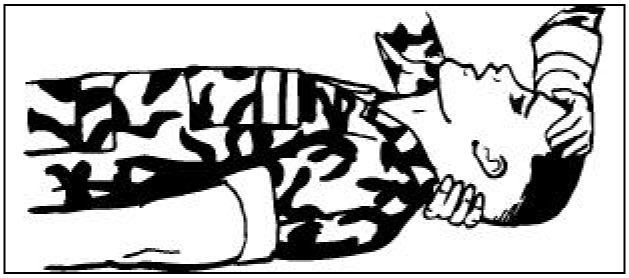


Figure 4

CAUTION: The head tilt is an important procedure in opening the airway; however, use extreme care when lifting the neck. Excessive force may cause further spinal injury. In a casualty with a possible neck injury or severe trauma, the safest approach to opening the airway is the jaw-thrust technique. In most cases, it can be accomplished without extending the neck.

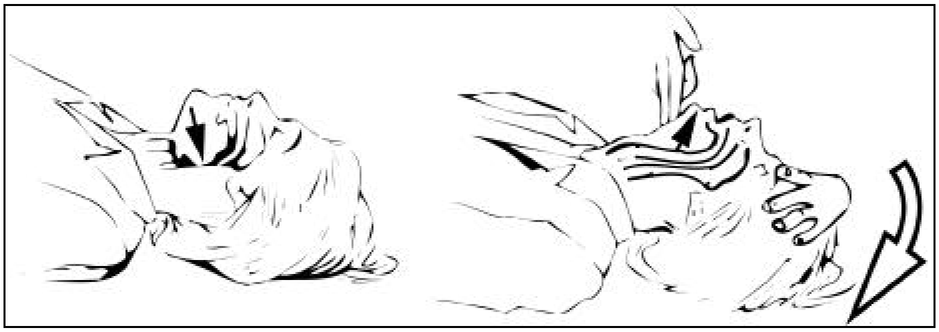


Figure 5

CAUTION: Be careful not to press against the soft tissues under the chin; doing so may obstruct the airway. The teeth should be brought close together, but the mouth should not be closed completely.

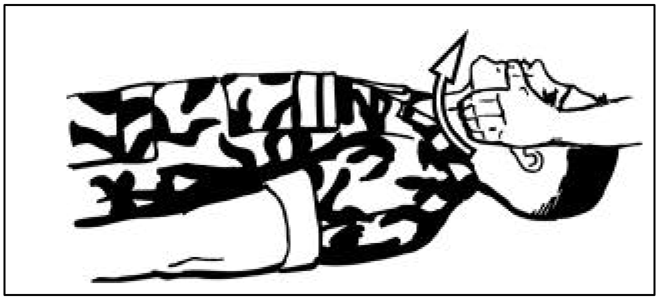


Figure 6

CAUTION: The jaw-thrust technique is applied when a casualty has a possible neck or back injury. The head can be supported carefully without tilting it or turning it.

(d) Maintain an open airway.

NOTE: Opening the airway often allows the casualty to breathe normally again. It should remain open so that the casualty will receive an adequate supply of oxygen.

(e) Perform preliminary steps for resuscitation.

1. Check for breathing by placing your ear over the casualty's mouth and nose.

   a. Look toward the casualty’s chest, observing for the rise and fall of the casualty's chest as shown in figure 7.

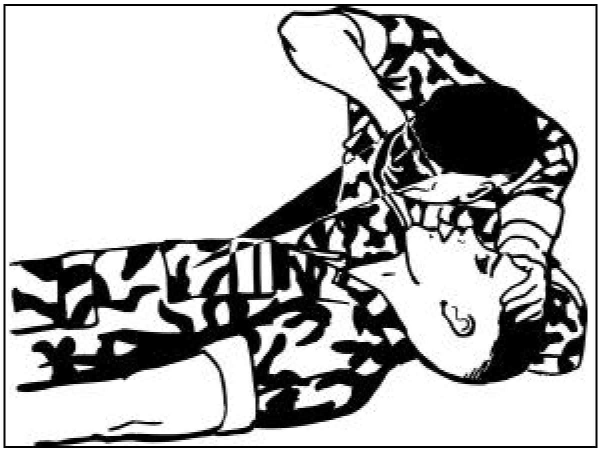


Figure 7

   b. Listen for the sounds of breathing.

   c. Feel for signs of breathing.

2. If the casualty is breathing, maintain the airway.

3. If the casualty is not breathing, administer mouth-to-mouth/mouth-to-nose resuscitation.

(f) Perform the mouth-to-mouth /mouth-to-nose resuscitation.

1. Place one of your hands on the casualty's forehead and pinch his or her nostrils together with your thumb and index fingers, using the same hand as shown in figure 8.

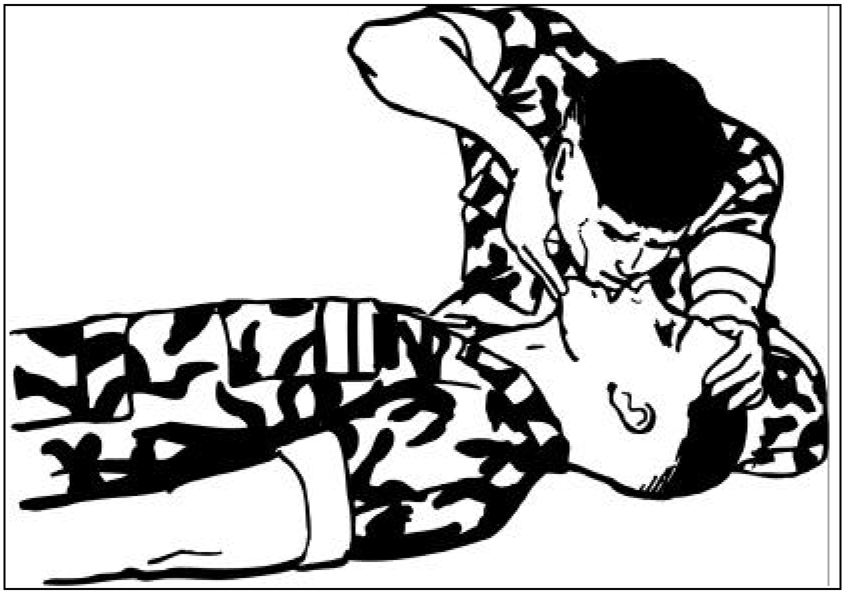


Figure 8

a. Let this hand exert pressure on the forehead to maintain the backwards head tilt and to maintain an open airway.

b. With the other hand, keep your fingertips on the chin (or your hand under the neck) to hold it upwards.

2. Take a deep breath and place your mouth (forming an airtight seal) around the casualty's mouth.

NOTE: If the injured person is small, cover both the nose and mouth with your mouth, sealing your lips against the skin of his or her face.

3. Within 3 to 5 seconds, blow four quick full breaths into the casualty's mouth, taking a breath of fresh air each time before you blow.

a. Watch from the corner of your eye for the casualty's chest to rise.

b. Release the casualty's nose after the final breath.

If	Then
The chest rises	Sufficient air is getting into the casualty’s lungs.
The chest does not rise	Make sure that air is not leaking from around your mouth or from the casualty’s pinched nose.

4. After giving four quick breaths attempt to locate a pulse on the casualty.

   a. Place the first two fingers of your hand on the groove beside the casualty's Adam's apple as shown in figure 9.

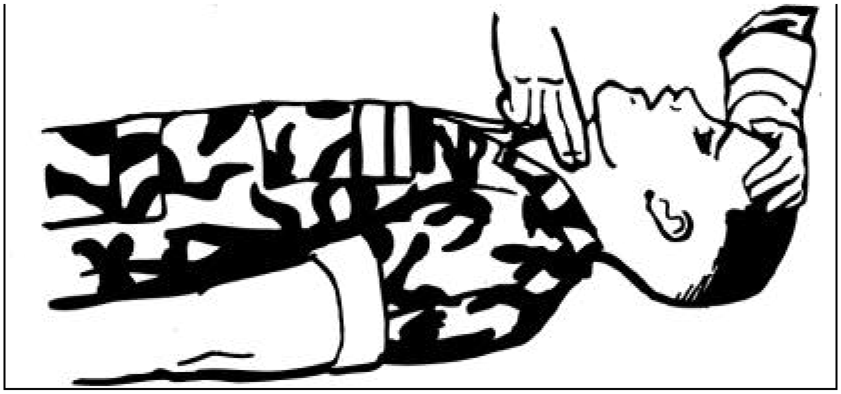


Figure 9

   b. Feel for the pulse on the side of the neck closest to you.

   c. Maintain the open airway by keeping your other hand on the casualty's forehead.

   d. Allow 5 to 10 seconds to determine whether there is a pulse.

If	Then
A pulse is not found and the casualty is breathing	STOP. Allow casualty to breathe on his or her own.
A pulse is found and the casualty is not breathing	Continue mouth-to-mouth/mouth -to-nose resuscitation.
A pulse is not found	Seek medical assistance.

5. Repeat all steps in section e. if the casualty is still not breathing.

6. Repeat this procedure at a rate of one breath every 5 seconds to achieve 12 breaths per minute.

7. Feel for a pulse after every 12th breath.

NOTE: If a pulse is not detected, start closed chest heart massage immediately.

8. Continue mouth-to-mouth/mouth-to-nose resuscitation until the casualty breathes on his or her own, until another person relieves you, until you are too tired to continue, or until medical assistance arrives.

NOTES: After a period of resuscitation, the casualty's stomach may bulge from incoming air. Usually this is due to the casualty's head being tilted improperly. Reposition the head and continue. DO NOT attempt to push out air by pressing on the stomach.

If your breathing has been very deep and rapid for too long, you may tingle, become weak, dizzy, or even faint. It is best to administer only four full quick breaths then to adjust your breathing to the rate of approximately once every 5 seconds. Do this with only a moderate increase in normal volume, and you will then be able to continue to give mouth-to-mouth/mouth-to-nose resuscitation for a longer period without experiencing temporary ill effects.

(2) Perform chest-pressure/arm-lift respiration.

NOTE: It is not always possible to use mouth-to-mouth/mouth-to-nose resuscitation. The chest-pressure arm-lift method is the preferred alternate method of artificial respiration. For example, a casualty may have several facial injuries or be in an NBC environment.

WARNING: Do not apply this method unless the mouth-to-mouth/mouth-to-nose method cannot be performed.

(a) Position the casualty on his or her back with his or her face up, and a rolled blanket or a similar object under the casualty's shoulders to extend the neck.

WARNING: Do not place a blanket or other similar object under the shoulders if you suspect the casualty has a neck injury.

(b) Stand at the casualty's head and face his or her feet.

1. Kneel on one knee and place your opposite foot on the other side of the casualty's head and against his or her shoulder to steady it.

2. Quickly switch to the other knee if you become uncomfortable after a period of time.

(c) Grasp the casualty's hands and hold them over his or her lower ribs. Rock forward and exert steady, uniform pressure almost directly downward until you meet firm resistance as shown in figure10.

NOTE: This pressure forces air out of the lungs.

(d) Lift the casualty's arms vertically upward, and then stretch the arms backwards as far as possible.

NOTE: Lifting and stretching the arms increases the size of the chest and draws air into the lungs.

(e) Replace the casualty's hands on his or her chest and repeat the cycle:

PRESS, LIFT, STRETCH, and REPLACE.

1. Repeat at 10 to 12 cycles per minute at a steady, uniform rate.

2. Give counts of equal length to the first three steps.

3. Perform the fourth step as quickly as possible.

(f) Adjust your timing to the attempted breathing of the casualty to assist him or her. Continue artificial respiration until the casualty starts to breathe on his or her own or until you are relieved by another person.

(g) Without interrupting the rhythm of the cycle, have another Marine take your place if you are tired.

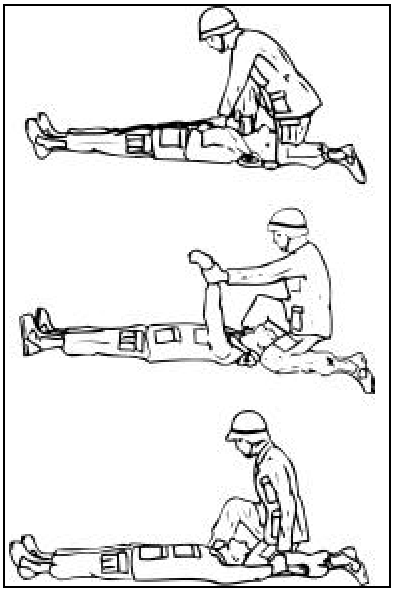


Figure 10

1. Position your replacement next to you so that he or she can grab the casualty's wrist during the stretch step.

2. Continue with the chest-pressure arm-lift method as you move out of the way.

NOTE: If this procedure must be done in an NBC environment and the casualty is already wearing a protective mask, lift the mask only enough to perform the clearing of the airway, and then return it to its proper position. If the casualty is not masked, mask him or her.

2. *Stop the bleeding.*

a. Check the casualty for wounds.

NOTE: Look for both entry and exit wounds on the casualty's body as shown in figure 11.

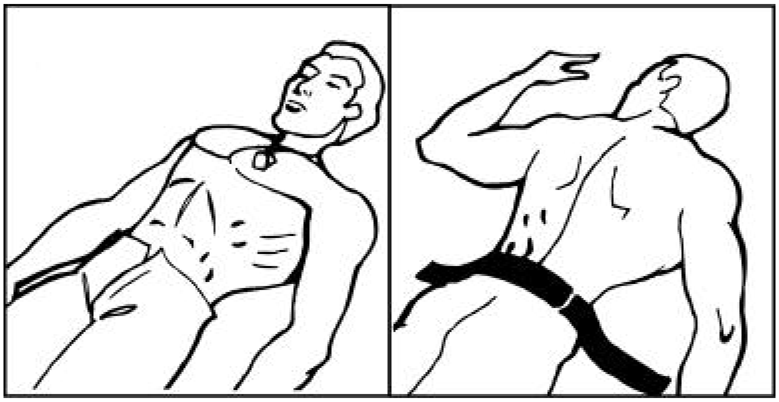


Figure 11

b. Identify the pressure points of the body as shown in figure 12.

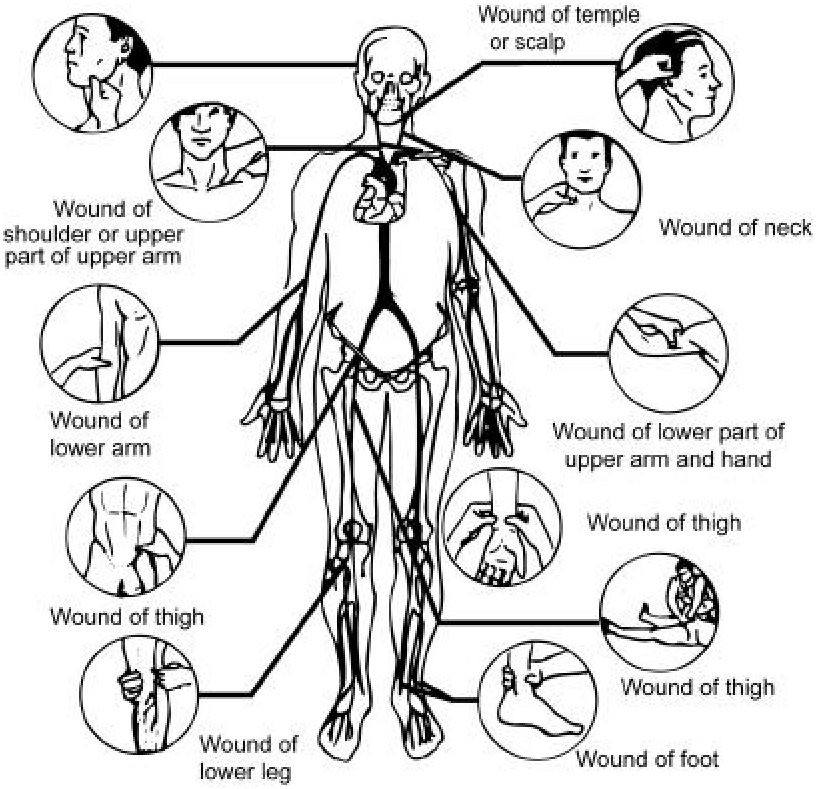


Figure 12

c. Apply pressure dressing.

NOTES: The Marine must apply a pressure dressing on a simulated casualty to prevent the wound from bleeding. He or she must decide how to secure the dressing, depending on the location of the wound. The Marine must practice applying bandages to the elbow, head, shoulder, leg, and foot.

(1) Locate all wounds.

    (a) Look for both entry and exit wounds.

NOTE: A bullet usually makes a smaller wound where it enters than where it exits.

(2) Stop the bleeding only; do not touch or try to clean the wound.

    (a) Cut and lift clothing away from the wound to expose it.

WARNING: Do not try to remove objects from the wound.

    (b) Put a field first-aid dressing on the wound, trying not to contaminate the dressing or the wound.

        1. Remove the dressing from its plastic envelope and twist it to break the paper wrapper.

        2. Grasp the dressing and unfold with both hands. Do not touch the side of the dressing that goes on the wound.

        3. Place the dressing on the wound without letting it touch anything else.

        4. Wrap the dressing around the wound and tie the ends securely with a square knot.

NOTE: If possible, tie the knot directly over the wound.

        5. If the bleeding continues after the dressing is secured on the wound, press the bandage for 5 to 10 minutes.

        6. If more pressure is needed to stop the bleeding, put a thick pad or stone on top of the dressing, and tie the ends of the dressing over the pad or stone.

        7. If the wound is in an arm or leg and the bleeding has not stopped, raise the injured limb above the level of the heart.

NOTE: Elevating the limb helps slow or stop the bleeding.

WARNING: Do not raise a limb with a broken bone unless it is properly splinted.

        8. If blood is spurting from the wound, apply pressure on the appropriate area to stop bleeding from an artery.

NOTE: This pressure should shut off or at least slow the flow of blood from the heart to the wound until a pressure dressing can be put on it.

        9. Keep pressure on the pressure point even after the wound is dressed.

        10. Apply a tourniquet if wound continues to bleed as outlined below in performance step d. (2).

        11. Seek medical assistance immediately.

d. Apply tourniquet.

(1) Perform the following first aid measures.

    (a) Perform the basic **ABC** treatment on casualty; check his or her **A**irway, **B**reathing, and **C**irculation.

    (b) Check for other injuries and perform proper treatment.

    (c) Select suitable material to use as a tourniquet such as a belt, rope, shoestring, torn clothing, scarf.

    (d) In the absence of a specially designed tourniquet, make one from a strong pliable material such as gauze, clothing, or kerchiefs.

(2) Use a tourniquet.

CAUTION: The tourniquet should not be used unless a pressure dressing has failed to stop the bleeding or an arm or leg has been cut off. Tourniquets can injure blood vessels and nerves. If left in place too long, a tourniquet can cause loss of an arm or leg. Once applied, it must stay in place and the casualty must be taken to the nearest medical treatment facility as soon as possible.

(a) Place the improvised tourniquet.

1. Place the tourniquet around the limb, between the wound and the body trunk, or between the wound and the heart.

2. Place the tourniquet 2 to 4 inches from the edge of the wound site.

WARNINGS: Never place the tourniquet directly over a wound or fracture or directly on a joint (wrist, elbow, or knee). For wounds just below a joint, place the tourniquet just above and as close to the joint as possible.

If possible, place the tourniquet over the smoothed sleeve or trouser leg to prevent the skin from being pinched or twisted. If the tourniquet is long enough, wrap it around the limb several times, keeping the materials as flat as possible. Damaging the skin may deprive the surgeon of skin required to cover an amputation.

(b) The three techniques to tie a tourniquet are the half-knot, full-knot and twisted stick. Apply the half-knot technique.

1. Tie a half-knot.

2. Place a stick on top of the half-knot.

(c) Apply the full-knot technique.

1. Tie the full-knot over the stick.

(d) Apply the twisted stick technique.

1. Fasten the tourniquet to the limb by looping the free ends of the tourniquet over the ends of the stick. Then bring the ends around the limb to prevent the stick from loosening. Tie them together under the limb.

NOTES: In the case of amputation, dark oozing blood may continue for a short time. This is the blood trapped in the area between the wound and the tourniquet.

2. Twist the stick until the tourniquet is tight around the limb and/or the bright red bleeding has stopped.

(3) Dress the wound/amputation.

(a) Remove and use the casualty's field dressing from his or her first aid kit, if available.

NOTE: Items that may also be used as dressing are gauze, cravat, bandages, T-shirts, other shirts, bed linens, trouser legs, scarfs, or any other items made of pliable and durable material that can be folded, torn, or cut to desired size.

(b) If possible, remove as much clothing as needed from around the casualty's injury. Cut the clothing and carefully lift clothing away from the wounded area to avoid further contamination.

CAUTIONS: Do not tear the clothing.
Do not touch the wound.
Keep the wound as clean as possible.
If it is dirty, leave it that way.
Do not expose wounds in a chemical (toxic) environment. IMMEDIATELY place the dressing over the wounds and secure in place.

(c) Place the dressing on the wound and secure in place.

1. Remove the dressing from wrapper.

2. Grasp the tails of the dressing with both hands.

3. Hold the dressing directly over the wound.

4. Pull the dressing open.

5. Place it directly over the wound.

6. Hold the dressing in place with one hand.

7. Use the other hand to wrap the tails around the dressing and the injured body part/stump to anchor dressing securely in place.

8. Tuck/tie each dressing tail in, around, and under the already wrapped portion to SECURE dressing in place.

NOTE: The casualty's sock or other material may be placed over the field dressing to protect the amputation.

CAUTION: Apply dressing firmly to prevent slipping and to stop the blood flow to the rest of the limb.

(d) If bleeding continues, do the following:

1. Place a wad of padding on top of the field dressing DIRECTLY over the wound.

2. Place an improvised dressing (or cravat, if available) over the wad of padding.

3. Wrap the ends tightly around the limb, covering the previously placed field dressing.

4. Tie the ends together in a nonslip knot, directly over the wound site.

5. Raise the wounded limb 2 to 4 inches by placing the limb on top of a log or other suitable object.

(e) Treat for shock, if required.

1. Place the casualty's arm(s) and hand(s) on his or her chest.

2. Cover the casualty to keep warm until he or she is transported to a medical facility.

3. Elevate the casualty's lower extremities.

(4) Mark the casualty.

(a) Mark the casualty by writing a capital "T" for tourniquet on his or her forehead. Make sure that the marking is visible.

(b) Use dark marker, soot, mud, or victim's blood.

(c) Write the time and date on the tourniquet and casualty's forehead to indicate when the tourniquet was applied.

3. *Protect the wound*

a. Do not try to replace protruding organs as shown in figure 13 picture 1.

b. Cover wound and organs with dressing as shown in figure 13 picture 2.

c. Bandage securely as shown in figure 13 picture 3.

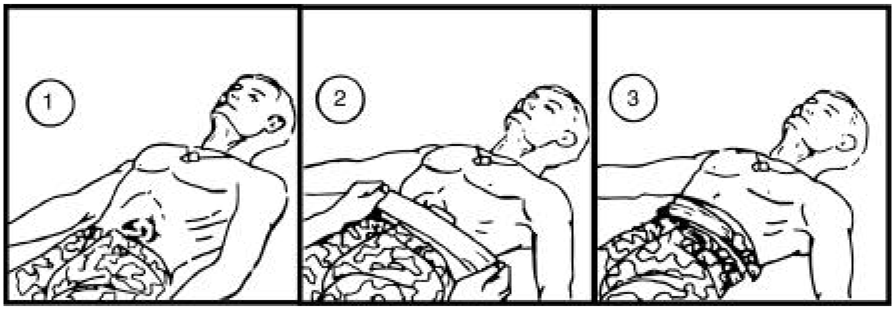


Figure 13

Do	Don't
Act promptly but calmly.	Position a casualty on his or her back if he or she is unconscious or has a facial or neck wound.
Reassure the casualty, and gently examine him or her to determine whether he or she needs first aid.	Remove clothing from a casualty by pulling or tearing it off.
Give lifesaving measures as required.	Touch or try to clean dirty wounds or burns.
Evacuate the casualty as soon as possible.	Remove dressing and bandages once they have been put on a wound.
Get medical assistance as soon as possible.	Loosen a tourniquet once it has been applied.
	Move a casualty who has a fracture until it has been properly splinted, and only if it is absolutely necessary.
	Give fluids by mouth to a casualty who is unconscious, nauseated, vomiting, or who has an abdominal or neck wound.
	Permit the head of a casualty with a head injury to be lower than his or her body.
	Try to push protruding intestines or brain tissue back into a wound.
	Put any medication on a burn.
	Administer first aid measures which are unnecessary or beyond your ability.

4. *Treat for shock.*

WARNING: Unless shock is prevented or treated, death may result even though the injury may not be fatal. Shock may result from any injury but is more likely to result from a severe injury.

a. Identify signs/symptoms of shock. Look for

(1) Restlessness, thirstiness, skin paleness, and rapid heartbeat

(2) Calmness and tiredness

(3) Sweating, and cool, clammy skin

(4) Gasping breath or shallow, rapid breathing

(5) Staring blindly into space

(6) Blotchiness or bluish coloring around the mouth

b. Treat the casualty at once for shock, if the casualty is in shock or is about to go into shock.

(1) Keep the casualty warm.

NOTE: It may be necessary to place ponchos or blankets under and over the casualty.

(2) Loosen the casualty's clothing at the neck, waist, and wherever it restricts circulation as shown in figure 14.

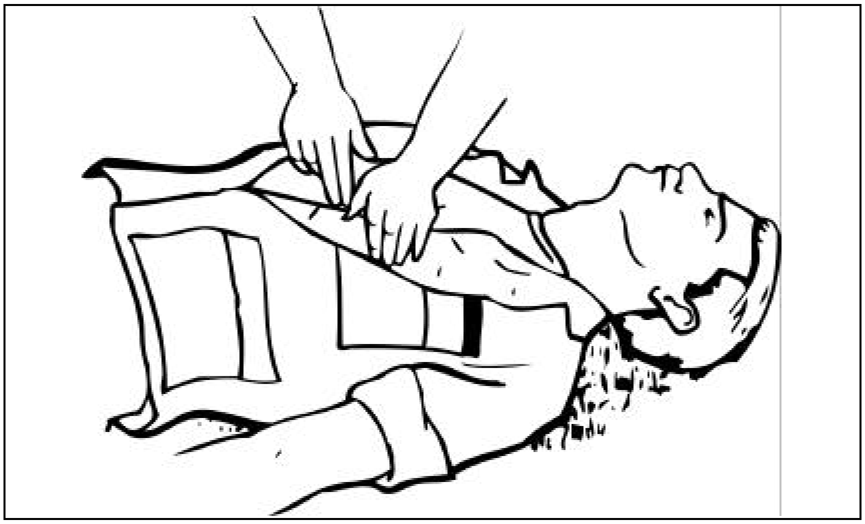


Figure 14

(3) Reassure the casualty by being calm and self-confident. Assure the casualty that he or she will be taken care of.

c. Place the casualty in a comfortable position, depending on his or her condition.

CONDITION	ACTION
Conscious	Place casualty on his or her back with feet raised 15 to 20 cm (6 to 8 in) as shown in figure 15.
Unconscious	Place casualty on his or her side or abdomen with head turned to the side as shown in figure 16.
Head wound	Raise casualty's head higher than his or her body.
Face or neck wound	Sit casualty up and lean him or her forward with head down or in the position for an unconscious casualty.
Sucking chest wound	Sit casualty up or lay him or her down on the injured side.
Abdominal wound	Lay casualty on his or her back with head turned to the side.

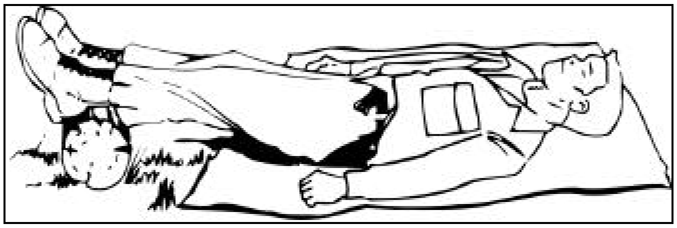


Figure 15

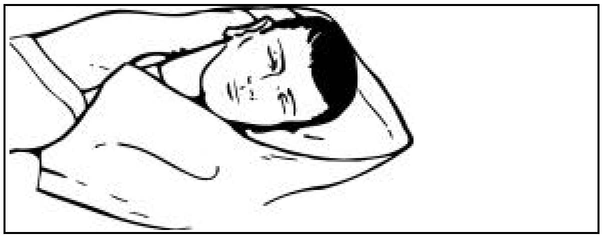


Figure 16

5. Seek medical aid, as required.

a. Continue to evaluate the casualty to determine the first aid measures needed to prevent further injury or death.

b. Seek medical assistance as soon as possible, but *DO NOT* interrupt treatment. To interrupt treatment may cause more harm than good to the casualty.

c. If, during any part of the evaluation, the casualty exhibits the conditions for which they are being checked, stop the evaluation and immediately administer first aid.

d. Continue to monitor until relieved by medical personnel.

REFERENCE(S):

MCRP 3-02G, *First Aid*

TASK: **MCCS.21.02 (CORE) PERFORM TREATMENT FOR BURNS**

CONDITION: **GIVEN A BURN CASUALTY AND A FIRST AID KIT.**

STANDARD: **TO PREVENT FURTHER INJURY OR DEATH PER THE REFERENCE.**

> EVALUATION GUIDELINES TO BE USED DURING TRAINING:
>
> *Condition:* The Marine is provided a combat casualty, the first aid kit, and the appropriate materials.
>
> *Standard:* The Marine must apply basic first aid including all basic life support, treatment of burns, and soft tissue injuries. The Marine must also use the safety precautions for those treatments.

PERFORMANCE STEPS:

1. *Evaluate the casualty.*

- Evaluate the casualty for conditions requiring basic lifesaving measures.
    - Apply the following basic lifesaving measures, if necessary:
        (a) Clear the airway.
        (b) Restore breathing.
        (c) Apply cardiopulmonary resuscitation (CPR).
        (d) Prevent shock.
        (e) Stop bleeding.

2. *Identify the type of burn.*

- Recognize the degree of burns.

(1) Identify first degree burns.

NOTE: First degree burns are those resulting from overexposure to the sun, light contact with hot objects, or scalding by hot water or steam. The severe sunburn should receive medical care as soon as possible.

(a) Check for redness or discoloration.

(b) Check for mild swelling and pain.

(c) Check for rapid healing.

(2) Identify second degree burns.

NOTE: Second degree burns are those resulting from a deepened sunburn or contact with ignited liquids such as gasoline, kerosene, or similar products.

(a) Check for deeper tissue destruction than first degree burn.

(b) Check for red or mottled appearance of skin.

(c) Check for development of blisters.

(d) Check for considerable swelling over a period of several days.

(e) Check for wet appearance on the surface of the skin due to the loss of body fluids through the damaged layers of the skin.

(3) Identify third degree burns.

NOTE: Third degree burns can be caused by flame, ignited clothing, immersion in hot water, contact with hot objects, or electricity. Temperature and duration of contact are important factors in determining the extent of tissue destruction.

(a) Check for deep tissue destruction.

(b) Check for white or charred appearance of skin.

(c) Check for complete loss of all layers of the skin.

3. Eliminate the source of burn.

a. Remove the casualty from thermal burns.

(1) Remove the casualty quickly and cover the thermal burn with a field jacket or any large nonsynthetic material.

CAUTION: Synthetic materials will melt and cause further injury.

(2) Roll the casualty on the ground to smother the flames.

b. Remove the casualty from electrical burns.

(1) Remove the casualty by using a nonconductive material such as wood, bamboo, etc.

(2) Wrap dry clothing or dry rope around his back and under his shoulders.

CAUTION: Do not make body-to-body contact with the casualty or touch any wires because you could also become a casualty.

(3) Turn off the electrical current if the switch is nearby, but do not waste time looking for it.

c. Remove the casualty from chemical burns.

(1) Remove liquid chemicals by flushing with as much water as possible.

(2) Remove dry chemicals by brushing off loose particles and flushing with large amounts of water.

CAUTION: Do not use the bare surface of your hand because you could become a casualty.

(3) Smother burning white phosphorous with water, a wet cloth, or wet mud.

4. Expose the burn.

a. Cut and gently lift away any clothing covering the burned area without pulling clothing over burns.

b. Leave any clothing in place that is stuck to the burns.

WARNING: Do not lift or cut away any clothing if in a chemical environment.

NOTE: Remember that blisters are burns. Do not decontaminate skin where blisters have formed.

5. Apply field dressing.

a. Grasp the tails of the casualty's dressing in both hands.

b. Hold the dressing directly over the wound with the white (sterile) side down.

(1) Pull the dressing open.

NOTE: Use the cleanest improvised dressing material available if a field dressing is not available.

(2) Place it directly over the wound.

NOTE: If the casualty is able, he or she may hold the dressing in place.

c. Hold the dressing in place with one hand and use the other hand to wrap one of the tails around the body or injured area.

d. Wrap the other tail in the opposite direction until the dressing completely covers the wound.

e. Tie the tails into a knot over the outer edge of the dressing.

CAUTION: Take the following precautions for burns:

(a) Do not place a dressing over the face or genital area.

(b) Do not break blisters.

(c) Do not apply grease or ointments to the burns.

(d) Check electrical burns for an entry and exit where the electricity passed through the body.

(e) Treat for shock.

6. Seek medical aid, as required.

REFERENCE(S):

MCRP 3-02G, *First Aid*

TASK: **MCCS.21.03 (CORE) APPLY A PRESSURE DRESSING**

CONDITION: **GIVEN A CASUALTY AND A FIRST AID KIT.**

STANDARD: **TO PREVENT FURTHER INJURY OR DEATH PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided a combat casualty, the first aid kit, and the appropriate materials.

Standard: The Marine must apply basic first aid including all basic life support, and apply a pressure dressing. The Marine must also use the safety precautions for those treatments.

PERFORMANCE STEPS:

1. *Evaluate the casualty.*

- Evaluate the casualty for conditions requiring basic lifesaving measures.

  (1) Apply the following basic lifesaving measures, if necessary:

    (a) Clear the airway.

    (b) Restore breathing.

    (c) Apply cardiopulmonary resuscitation (CPR).

    (d) Prevent shock.

    (e) Stop bleeding.

2. *Locate wound (s).*

a. Locate all wounds.

b. Look for both entry and exit wounds.

NOTE: A bullet wound is smaller when it enters than when it exits.

3. *Apply direct pressure.*

a. Press the bandage for 5 to 10 minutes if the bleeding continues after the dressing is secured on the wound.

  (1) If more pressure is needed to stop the bleeding, put a thick pad or stone on top of the dressing, and tie the ends of the dressing over the pad or stone.

b. Raise the injured limb above the level of the heart if the wound is in an arm or leg and the bleeding has not stopped.

NOTE: Elevating the limb helps slow or stop the bleeding.

WARNING: Do not raise a limb with a broken bone unless it is properly splinted.

c. Apply pressure on the appropriate area to stop bleeding from an artery if blood is spurting from the wound.

NOTE: This pressure should shut off or at least slow the flow of blood from the heart to the wound until a pressure dressing can be put on it.

4. Apply pressure dressing.

- Carefully put a field first aid dressing on the wound to prevent contamination.

  (1) Remove the dressing from its plastic envelope and twist it to break the paper wrapper.

  (2) Grasp the dressing and unfold with both hands.

  CAUTION: To prevent contamination, do not touch the side of the dressing that goes on the wound.

  (3) Place the dressing on the wound without letting it touch anything else.

  (4) Wrap the dressing around the wound and tie the ends securely with a square knot.

    (a) If possible, tie the knot directly over the wound.

5. Seek medical assistance immediately.

REFERENCE(S):

MCRP 3-02G, First Aid

TASK: **MCCS.21.04 (CORE) APPLY A SPLINT TO A FRACTURE**

CONDITION: **GIVEN A CASUALTY, A FIRST AID KIT, AND AVAILABLE MATERIALS.**

STANDARD: **TO PREVENT FURTHER INJURY OR DEATH PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided a combat casualty, a first aid kit, and the appropriate materials.

Standard: The Marine must apply basic first aid including all basic life support and splint fractures, and adhere to all safety precautions for those treatments.

PERFORMANCE STEPS:

1. *Evaluate the casualty.*

a. Perform any necessary lifesaving measures.

b. Check the casualty for responsiveness by gently shaking or tapping him or her while calmly asking, "Are you okay?"

c. Ask a conscious casualty to identify the location(s) of pain or the area in which there is no feeling. If he or she has an airway obstruction, clear the airway.

d. Proceed to the next step if the casualty is unconscious.

e. Check for breathing.

(1) Attempt to resuscitate if the casualty is not breathing.

(2) Clear the airway obstruction if it is apparent, then ventilate.

(a) Check for pulse.

(b) If pulse is present and the casualty is breathing, proceed to substep f.

(c) Start to resuscitate if pulse is present and the casualty is still not breathing.

(d) If pulse is not present, seek medical assistance.

f. Check for bleeding.

(1) Look for spurts of blood or blood-soaked areas of clothing.

(2) Check for both entry and exit of bullet wounds.

(3) Perform the needed first-aid measures if the casualty is bleeding from an open wound.

g. Check for shock.

- Begin the treatment immediately if signs or symptoms of shock are present.

h. Monitor the casualty for conditions that may require basic lifesaving measures.

CAUTION: Unless there is immediate life-threatening danger, such as a fire or an explosion, do not move a casualty with a suspected back or neck injury. Improper treatment may cause permanent paralysis or death.

i. Locate the site of the suspected fracture as shown in figure 1.

(1) Closed fracture: There are no protruding bones, and usually there is no external bleeding.

(2) Open fracture: There are protruding bones and external bleeding.

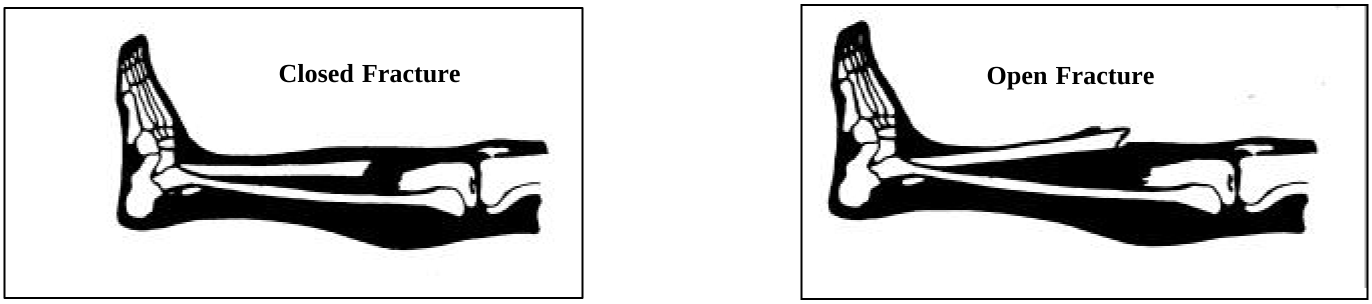


Figure 1

j. Ask the casualty for the location of the injury.

EXAMPLE: "Do you have pain? Where is it tender? Can you move the extremity?"

k. Look for an unnatural position of the extremity.

l. Look for a protruding bone.

m. Loosen any tight or binding clothing.

n. Remove all jewelry from the casualty and place it in his or her pocket.

o. Tell the casualty not to move at this time.

NOTE: Boots should not be removed from the casualty unless they are needed to stabilize a neck injury, or there is actual bleeding from the foot.

p. Reassure the casualty. Tell the casualty that you will be taking care of him or her, and that aid is on the way.

2. Select suitable material to be use as a splint.

- Gather splinting materials.

(1) Use tree branches, boards, tent poles, etc.

(2) Improvise padding with a jacket, blanket, poncho, shelter half, or leafy vegetation.

(3) Use parts of the casualty's body to immobilize a suspected fracture of an arm or leg; for example, use the chest wall to immobilize the injured arm.

3. Pad the splint.

- Pad the splints where they touch any part of the body, such as the elbow, wrist, knee, ankle, crotch, or armpit area.

4. Immobilize the fracture.

- Apply and tie the splint in place.

(1) Splint the fracture in the position found.

WARNING: Do not attempt to reposition or straighten the injured part.

(2) If it is an open fracture, stop the bleeding and protect the wound.

(3) Cover all wounds with field dressing before applying a splint.

CAUTION: Use the casualty's field dressing, not your own.

WARNING: If bones are protruding, do not attempt to push them back under the skin.

(4) Apply dressing to protect the area.

(5) Tie the splints.

(6) Secure each splint in place above and below the fracture site. Use cravats or improvised cravats, such as a strip of cloth or belts, to secure each splint.

(7) With minimal motion to the injured areas, place and tie the splints with the bandages.

(8) Push cravats through and under the natural body curvature (spaces).

(9) Gently position improvised cravats and tie in place.

(10) Use non slip knots.

(11) Tie all knots on the splint away from the casualty as shown in figure 2.

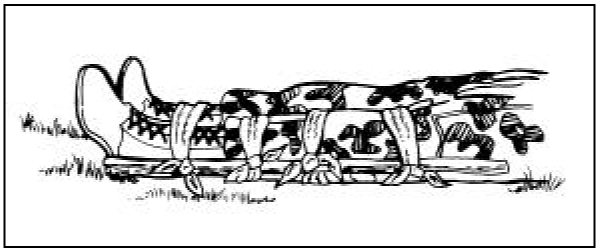


Figure 2

CAUTION: Do not tie knots directly over suspected fracture or dislocation site.

5. *Seek medical assistance immediately.*

REFERENCE(S)

MCRP 3-02G, *First Aid*

TASK: **MCCS.21.05 (CORE) APPLY A TOURNIQUET**

CONDITION: **GIVEN A CASUALTY, A FIRST AID KIT, AND AVAILABLE MATERIALS.**

STANDARD: **TO PREVENT FURTHER INJURY OR DEATH PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided a combat casualty, the first aid kit, and the appropriate materials.

Standard: The Marine must apply basic first aid including all basic life support, and the application of tourniquets. The Marine must also use the safety precautions for those treatments.

PERFORMANCE STEPS:

1. *Evaluate the casualty.*

a. Check the casualty for responsiveness by gently shaking or tapping him or her while calmly asking, "Are you okay?"

  (1) Ask a conscious casualty to identify the location of pain or to identify the area in which there is no feeling. If he or she has an airway obstruction, clear the airway.

  (2) Proceed to the next step if the casualty is unconscious.

b. Check for breathing.

  (1) Proceed to substep (a) if the casualty is breathing.

  (2) Attempt to resuscitate if the casualty is not breathing.

  (3) Clear the airway obstruction if it is apparent, then ventilate.

    (a) Check for pulse.

    (b) If pulse is present and the casualty is breathing, proceed to substep c.

    (c) Start to resuscitate if pulse is present even if the casualty is still not breathing.

    (d) If pulse is not present, seek medical assistance.

c. Check for bleeding.

  (1) Look for spurts of blood or blood-soaked area of clothing.

  (2) Check for both entry and exit of bullet wounds.

  (3) Perform the needed first-aid measures if the casualty is bleeding from an open wound.

d. Check for shock.

  - Begin treatment immediately if signs or symptoms of shock are present.

e. Check for fractures.

  (1) Check for signs or symptoms of fractures or spinal injury, and treat as necessary.

  (2) Check for signs or symptoms of fractures of the limbs and other body areas (example: shoulder or hip), and treat as necessary.

f. Check for burns.

  (1) Look carefully for reddened skin or singed clothing.

  (2) Begin the treatment if the above signs or symptoms are found.

g. Check for possible head injury (concussion, skull fracture, etc.).

2. Select suitable material for the tourniquet.

a. Select suitable material to use as a tourniquet such as a belt, rope, shoestring, torn clothing, scarf, etc.

b. In the absence of a specially designed tourniquet, make one from a strong pliable material like gauze, clothing, or kerchiefs.

3. Apply the tourniquet.

a. Use a tourniquet.

NOTE: The tourniquet should not be used unless a pressure dressing has failed to stop the bleeding or if an arm or leg has been cut off. Tourniquets have injured blood vessels and nerves. If left in place too long, a tourniquet can cause loss of an arm or leg. Once applied, it must stay in place and the casualty must be taken to the nearest medical treatment facility as soon as possible.

- Place the improvised tourniquet.

    (a) Place the tourniquet around the limb, between the wound and the body trunk (or between the wound and the heart).

    (b) Place the tourniquet 2 to 4 inches from the edge of the wound site.

NOTES: Never place the tourniquet either directly over a wound or fracture or directly on a joint (wrist, elbow, or knee). For wounds just below a joint, place the tourniquet just above and as close to the joint as possible.

If possible, place the tourniquet over the smoothed sleeve or trouser leg to prevent the skin from being pinched or twisted. If the tourniquet is long enough, wrap it around the limb several times, keeping the materials as flat as possible. Damaging the skin may deprive the surgeon of skin required to cover an amputation.

b. The three techniques to apply a tourniquet are half-knot, full-knot, and twisted stick technique.

  (1) Apply the half-knot technique.

    (a) Tie a half-knot.

    (b) Place a stick on top of the half-knot.

  (2) Apply the full knot technique.

    - Tie the full knot over the stick.

  (3) Apply the twisted stick technique.

    (a) Fasten the tourniquet to the limb by looping the free ends of the tourniquet over the ends of the stick. Then bring the ends around the limb to prevent the stick from loosening. Tie them together under the limb.

NOTE: In the case of amputation, dark oozing blood may continue for a short time. This is the blood trapped in the area between the wound and the tourniquet.

    (b) Twist the stick until the tourniquet is tight around the limb and/or the bright red bleeding has stopped.

c. Dress the wound or amputation.

(1) Remove and use the casualty's field dressing from his or her first aid kit, if available.

NOTE: The following may be used as a dressing: gauze, cravat, bandages, T-shirts, other shirts, bed linens, trouser legs, scarves, or any other items made of pliable and durable material that can be folded, torn, or cut to desired size.

(2) If possible, remove as much clothing as needed from around the casualty's injury.

- Cut the clothing and carefully lift clothing away from the wounded area to avoid further contamination.

CAUTION: Do not tear the clothing. Do not touch the wound. If it is dirty, leave it that way. Keep the wound as clean as possible. If in a chemical (toxic) environment, do not expose wounds. IMMEDIATELY place the dressing over the wound and secure in place.

(3) Place the dressing on the wound and secure in place.

(a) Remove the dressing from wrapper.

(b) Grasp the tails of the dressing with both hands.

(c) Hold the dressing directly over the wound.

(d) Pull the dressing open.

(e) Place it directly over the wound.

(f) Hold the dressing in place with one hand.

(h) Use the other hand to wrap the tails around the dressing and the injured body part and stump to anchor dressing securely in place.

(i) Tuck or tie each dressing tail in, around, and under the already wrapped portion to SECURE dressing in place.

NOTE: The casualty's sock or other material may be placed over the field dressing to protect the amputation.

CAUTION: Apply dressing firmly to prevent slipping and to stop the blood flow to the rest of the limb.

(4) If bleeding continues, do the following:

(a) Place a wad of padding on top of the field dressing DIRECTLY over the wound.

(b) Place an improvised dressing or cravat, if available, over the wad of padding.

(c) Wrap the ends tightly around the limb, covering the previously placed field dressing.

(d) Tie the ends together in a nonslip knot directly over the wound site.

(e) Raise the wounded limb 2 to 4 inches by placing the limb on top of a log or other suitable object.

(5) Treat for shock, if required.

(a) Place the casualty's arm(s) and hand(s) on his or her chest.

(b) Cover the casualty to keep warm until he or she is transported to a medical facility.

(c) Elevate the casualty's lower extremities.

4. *Mark the casualty with the letter "T" and place the time and date on the casualty's forehead.*

a. Mark the casualty by writing a capital "T" for tourniquet on his or her forehead. Make sure the marking is visible.

b. Use dark marker, soot, mud, or the victim's blood.

c. Write the time and date on the tourniquet and casualty's forehead to indicate when the tourniquet was applied.

5. *Seek medical assistance immediately.*

REFERENCE(S)

MCRP 3-02G, *First Aid*

TASK: **MCCS.21.06 (CORE) TREAT AN INSECT OR ANIMAL BITE**

CONDITION: **GIVEN A CASUALTY AND A FIRST AID KIT.**

STANDARD: **TO PREVENT FURTHER INJURY OR DEATH PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided a tactical scenario in any combat environment (day or night), and an unarmed opponent.

Standard: The Marine, who is unarmed, must engage an opponent in unarmed close combat (LINE I and II).

PERFORMANCE STEPS:

1. *Evaluate the casualty.*

a. Perform any necessary lifesaving measures.

b. Check the casualty for responsiveness by gently shaking or tapping him while calmly asking, "Are you okay?"

(1) Ask a conscious casualty to identify the location(s) of pain or to identify the area in which there is no feeling. If he or she has an airway obstruction, clear the airway.

(2) Proceed to the next step if the casualty is unconscious.

c. Check for breathing.

(1) Attempt to resuscitate if the casualty is not breathing.

(2) Clear the airway obstruction if it is apparent, then ventilate.

(a) Check for pulse.

(b) If pulse is present and the casualty is breathing, proceed to step 4.

(c) Start to resuscitate if pulse is present, but the casualty is still not breathing.

(d) If pulse is not present, seek medical assistance.

d. Check for bleeding.

(1) Look for spurts of blood or blood-soaked areas of clothing.

(2) Check for both entry and exit of bullet wounds.

(3) Perform the needed first-aid measures if the casualty is bleeding from an open wound.

e. Check for shock.

- Begin the treatment immediately if signs or symptoms of shock are present.

2. *Identify the insect, animal, or reptile if possible.*

a. It is important to properly identify the spider, bee, or creature that caused the bite/sting especially in cases of allergic reaction when death is a possibility.

b. The insects found throughout the world that can produce a bite or sting are too numerous to mention in detail.

c. Commonly encountered stinging or biting insects include brown recluse spiders, black widow spiders, tarantulas, scorpions, urticating caterpillars, bees, wasps, centipedes, conenose beetles (kissing bugs), ants, and wheel bugs. Upon being reassigned, especially to overseas areas, take the time to become acquainted with the types of insects to avoid.

d. Human or other land animal bites may cause lacerations or bruises. In addition to damaging tissue, human or bites from animals such as dogs, cats, bats, raccoons, or rats always present the possibility of infection.

3. Identify signs and symptoms.

a. Effects of insect bites/stings can occur alone or in combination with others.

(1) Less serious. Commonly seen signs or symptoms are pain, irritation, swelling, heat, redness, and itching. Hives or wheals (raised areas of the skin that itch) may occur. These are the least severe of the allergic reactions that commonly occur from insect bites/stings. They are usually dangerous only if they affect the air passages (mouth, throat, nose, and so forth), which could interfere with breathing. The bites/stings of bees, wasps, ants, mosquitoes, fleas, and ticks are usually not serious and normally produce mild and localized symptoms. A tarantula's bite is usually no worse than that of a bee sting. Scorpions are rare and their stings (except for a specific species found only in the southwest desert) are painful but usually not dangerous.

(2) Serious. Emergency allergic or hypersensitive reactions sometimes result from the stings of bees, wasps, and ants. Many people are allergic to the venom of these particular insects. Bites or stings from these insects may produce more serious reactions to include generalized itching and hives, weakness, anxiety, headache, breathing difficulties, nausea, vomiting, and diarrhea. Very serious allergic reactions (called anaphylactic shock) can lead to complete collapse, shock, and even death.

(3) Spider bites (particularly from the black widow and brown recluse spiders) can be serious also. Venom from the black widow spider affects the nervous system. This venom can cause muscle cramps; a rigid, nontender abdomen; breathing difficulties; sweating; nausea; and vomiting. The brown recluse spider generally produces local rather than system-wide problems; however, local tissue damage around the bite can be severe and can lead to an ulcer and even gangrene.

b. Human bites that break the skin may become seriously infected since the mouth is heavily contaminated with bacteria. All human bites must be treated by medical personnel.

- Land animal bites can result in both infection and disease. Tetanus, rabies, and various types of fevers can follow an untreated animal bite. Because of these possible complications, the animal causing the bite should, if possible, be captured or killed (without damaging its head) so that competent authorities can identify and test the animal to determine if it is carrying diseases.

4. Apply treatment to bite and surrounding area as required.

a. *First Aid.* There are certain principles that apply regardless of what caused the bite/sting. For example: If there is a stinger present from a bee, remove the stinger by scraping the skin's surface with a fingernail or knife.

(1) Do not squeeze the sack attached to the stinger because it may inject more venom.

(2) Wash the area of the bite or sting with soap and water (alcohol or an antiseptic may also be used) to help reduce the chances of an infection and remove traces of venom.

(3) Remove jewelry from bitten extremities because swelling is common and may occur.

(4) In most cases of insect bites, the reaction will be mild and localized; use ice or cold compresses (if available) on the site of the bite or sting. This will help reduce swelling, ease the pain, and slow the absorption of venom. Meat tenderizer (to neutralize the venom) or calamine lotion (to reduce itching) may be applied locally.

(5) In more serious reactions (severe and rapid swelling, allergic symptoms, and so forth) treat the bite or sting like you would treat a snakebite; that is, apply constricting bands above and below the site.

(6) Be prepared to perform basic lifesaving measures such as rescue breathing.

(7) Reassure the casualty and keep him calm.

(8) In serious reactions, attempt to capture the insect for positive identification; however, be careful not to become a casualty.

b. *First Aid.* Human or animal bites.

(1) Cleanse the wound thoroughly with soap or detergent solution.

(2) Flush it well with water.

(3) Cover it with a sterile dressing.

(4) Immobilize an injured arm or leg

NOTE: If unable to capture or kill the animal, provide medical personnel with any information possible that will help identify it. Information of this type will aid in appropriate treatment.

5. *Seek medical treatment as appropriate*.

REFERENCE(S):

MCRP 3-02G, *First Aid*

TASK: **MCCS.21.07 (CORE) EVACUATE A CASUALTY**

CONDITION: **GIVEN A CASUALTY AND A FIRST AID KIT.**

STANDARD: **PERFORMING FIVE OF EIGHT CARRIES PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided a tactical scenario in any combat environment, combat casualties requiring movement, a Marine assistant, and miscellaneous materials that can be used to improvise as a stretcher.

Standard: The Marine must transport casualties using various manual carries and improvised stretchers.

PERFORMANCE STEPS:

1. *Evaluate the casualty.*

a. Before attempting to move an injured Marine, evaluate the type and extent of the injury if the situation allows. Make sure that bandages over wounds will not come off and that broken bones are properly immobilized and supported to prevent them from cutting through muscle, blood vessels, and skin.

b. One or two bearers may do manual carries; use two-man carries whenever possible.

c. Use manual carries to transport a casualty.

2. *Perform the fireman's carry.*

a. Properly position the unconscious or disabled casualty.

b. Roll the casualty onto his or her abdomen.

  (1) Kneel at the casualty's uninjured side (figure 1).

  (2) Place the casualty's arms above his or her head and cross the ankle farther from you over the one closer to you.

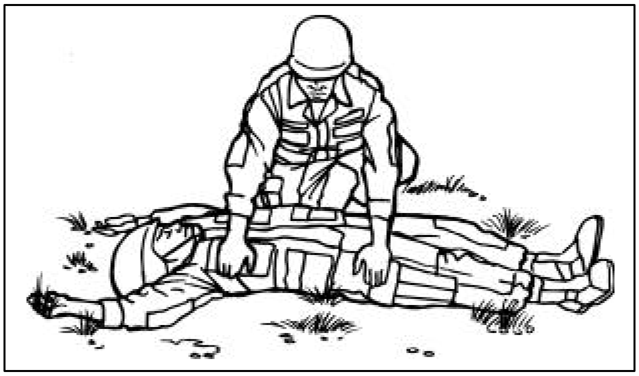


Figure 1

(3) Place one of your hands on the shoulder farther from you and your other hand in the area of the casualty's hip or thigh, then gently roll the casualty toward you onto his or her abdomen (figure 2).

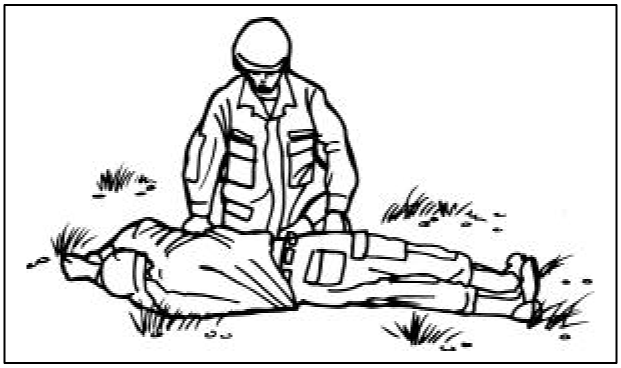


Figure 2

c. Raise the casualty from the ground (figure 3).

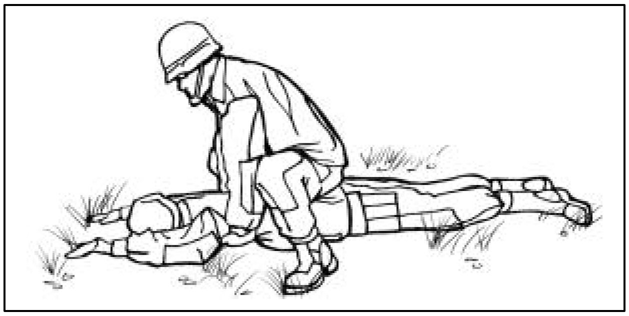


Figure 3

(1) After rolling the casualty onto his or her abdomen, straddle him or her.

(2) Extend your hands under casualty's chest and lock them together.

(3) Lift the casualty to his or her knees as you move backward (figure 4).

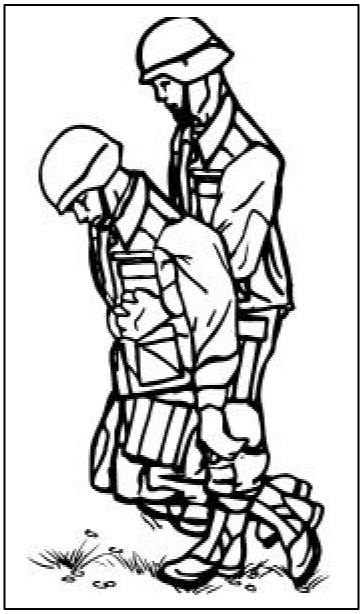


Figure 4

(4) Continue to move backward, thus straightening the casualty's legs and locking his or her knees (figure 5).

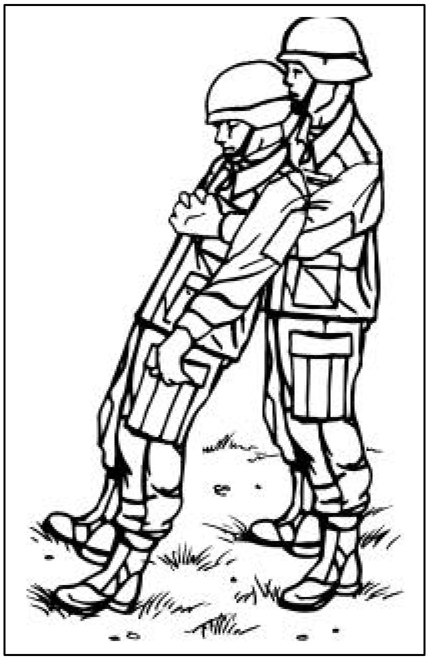


Figure 5

(5) Walk forward, bringing the casualty to a standing position but tilted slightly backward to prevent his or her knees from buckling (figure 6).

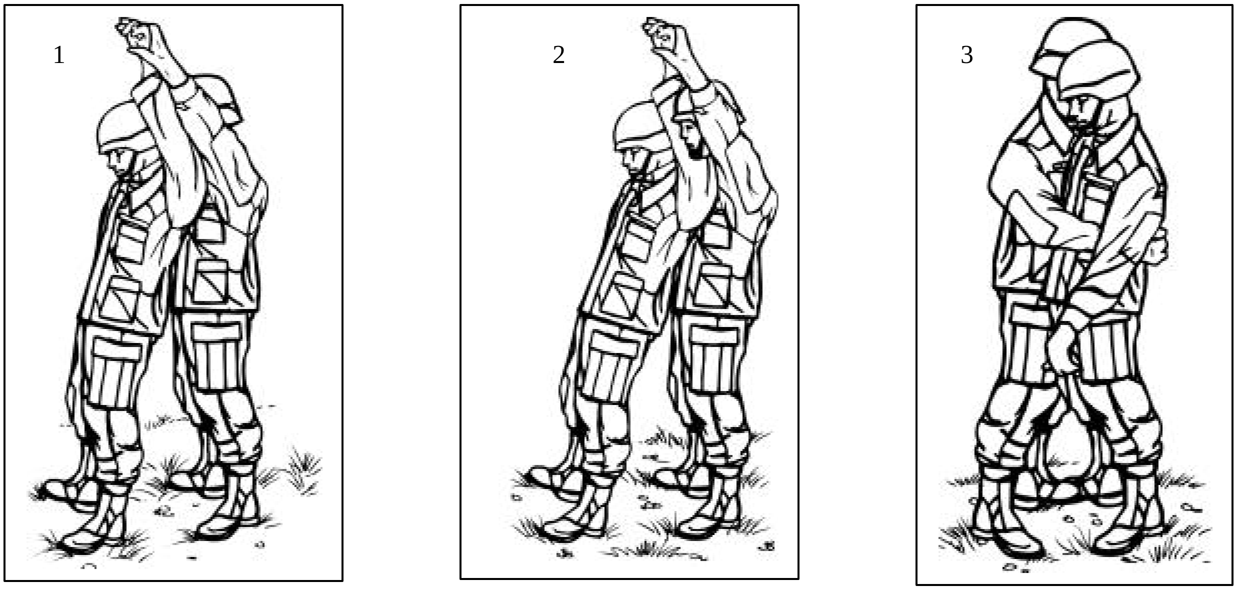


Figure 6

d. Free your left arm, maintaining support of the casualty with your right arm.

(1) Quickly grasp his left wrist and raise his or her arm high (figure 6, illustration 1).

(2) Instantly pass your head under the casualty’s raised arm, releasing his or her arm as you pass under it (figure 6, illustration 2).

(3) Move swiftly to face the casualty and secure your arms around his or her waist (figure 6, illustration 3).

(4) Immediately place your right toe between the casualty’s feet, and spread his or her feet 6 to 8 inches apart.

e. With your right hand, grasp the casualty's left wrist and raise his or her arm over your head (figure 7).

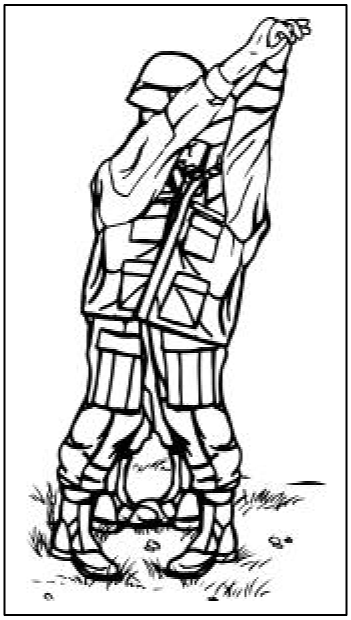


Figure 7

f. Bend at the waist and knees; then pull the casualty's arm over your left shoulder and down your back, thus bringing his or her body across your shoulders (figure 8, illustration 4).

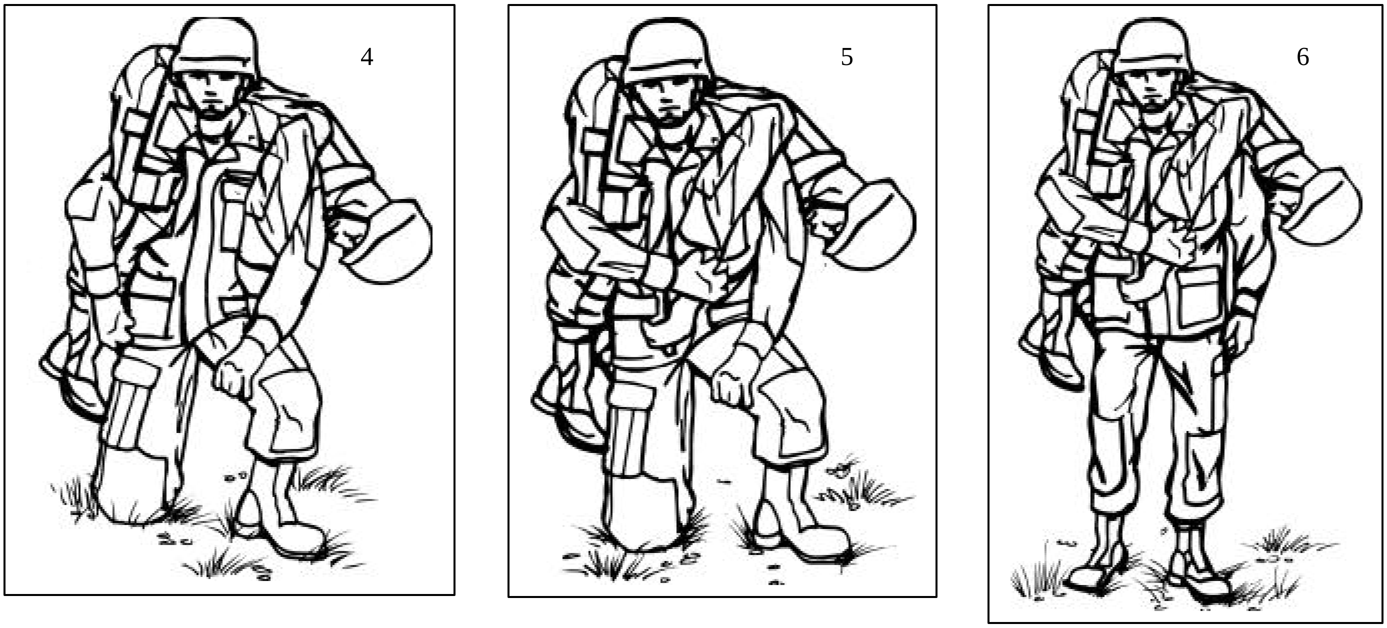


Figure 8

g. At the same time, pass your left arm between his or her legs.

(1) Place the Marine's left wrist in your left hand, and place your right hand on your right knee for support in rising (figure 8, illustration 5).

(2) Rise with the casualty in the correct position (figure 8, illustration 6).

(a) Free your right hand to use as needed.

3. *Perform the alternate fireman's carry.*

NOTES: Use the alternate method for raising a casualty from the ground only when the bearer believes it is safer for the casualty because of the location of his or her wounds.

Use extreme care to prevent the casualty's head from snapping back and causing a neck injury.

a. Kneel on one knee at the casualty's head, rolling him or her on the stomach and facing his or her feet (figure 9).

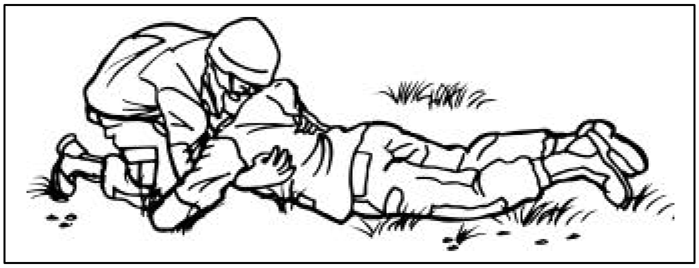


Figure 9

(1) Next, extend your hands under the casualty's armpits, down his or her sides, and across his or her back.

(2) As you rise, lift the casualty to his or her knees.

(3) Secure your arms around the casualty's waist, with his or her body tilted slightly backward to prevent his or her knees from buckling (figure 10).

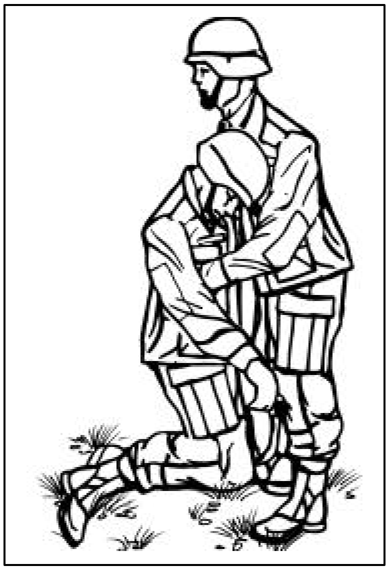


Figure 10

(4) Place your right foot between the casualty's feet, spread his or her feet 6 to 8 inches apart, and raise him or her to a standing position with his or her knees locked.

(5) Repeat steps 4, 5, and 6 as in (figure 8).

4. *Perform the support carry.*

a. Use the supporting carry (figure 11).

(1) Raise the casualty from the ground as in the fireman's carry.

(2) With your left or right hand, grasp the casualty's left or right wrist and draw his or her arm around your neck.

(3) Place your right or left right arm around his or her waist. (The casualty is now able to walk, using you as a crutch.)

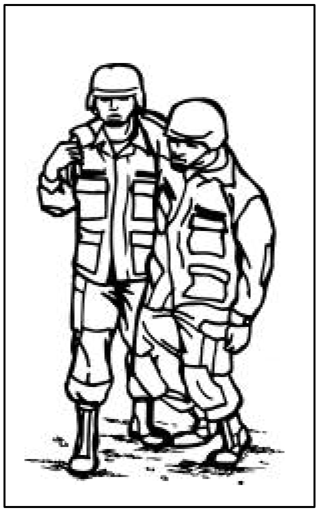


Figure 11

5. *Perform the arms carry.*

a. Use the arms carry (figure 12).

(1) Lift the casualty from the ground as you would in the fireman's carry.

(2) Carry the casualty high to lessen fatigue.

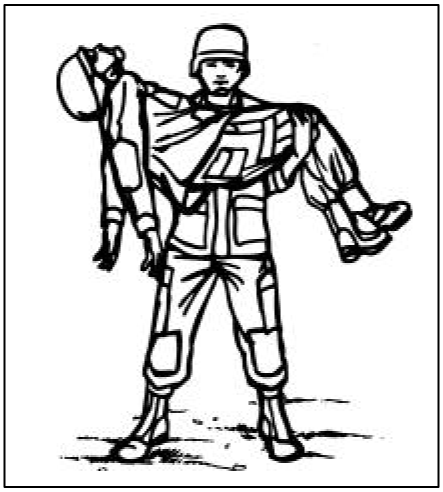


Figure 12

6. *Perform the saddleback carry.*

a. Use the saddleback carry (figure 13).

(1) Raise the casualty to an upright position as in the fireman's carry.

(2) Support the casualty by placing an arm around his or her waist, and move in front of him or her.

(3) Have the casualty circle his or her arms around your neck.

(4) Stoop, raise the casualty upon your back, and clasp your hands beneath his or her thighs.

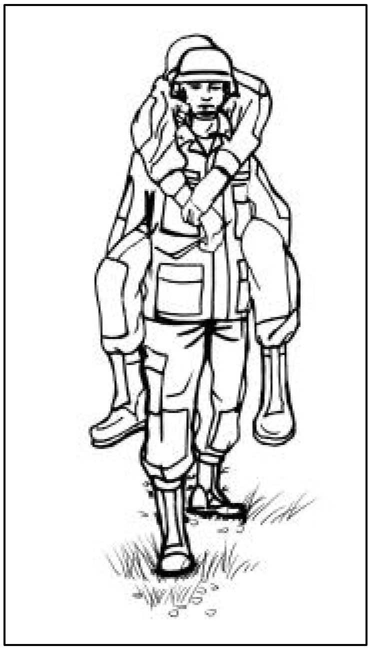


Figure 13

7. *Perform the pack strap carry.*

a. Use the pack strap carry.

(1) Lift the casualty from the ground as in the fireman's carry.

(2) Supporting the casualty with your arm around him or her, grasp his or her wrist closest to you, and place his or her arm over your head and cross your shoulder.

(3) Move in front of the casualty while supporting his or her weight against your back.

(4) Grasp his or her other wrist, and place this arm over your shoulder (figure 14, illustration 7).

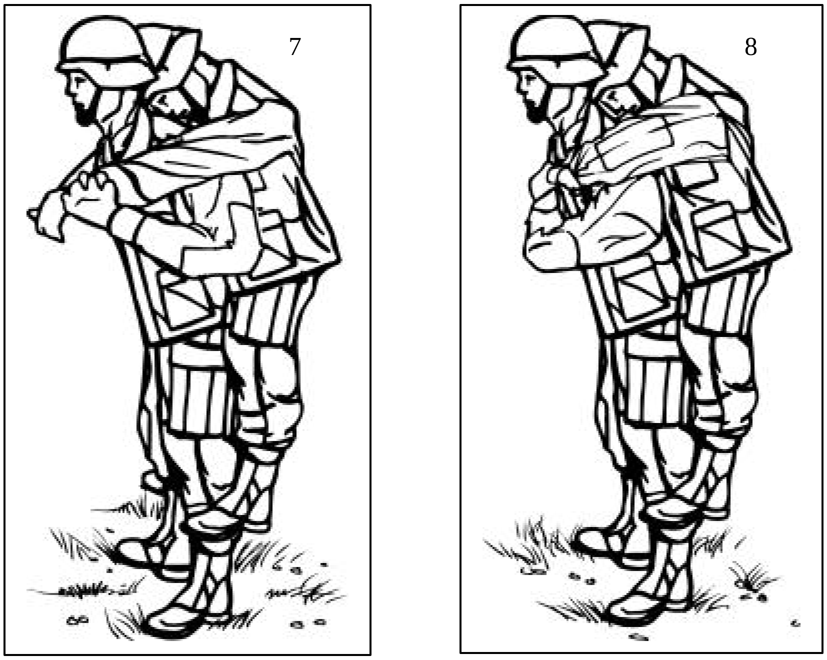


Figure 14

(5) Bend forward, and hoist the casualty as high on your back as possible so that all his or her weight is resting on your back (figure 14, illustration 8).

8. Perform the pistol belt carry.

a. Link together two pistol belts to form a sling.

NOTE: If pistol belts are not available, use other items such as one rifle sling, two cravat bandages, two litter straps, or any suitable material that will not cut or bind the wounded Marine.

b. Place the sling under the casualty's thighs and lower back so that a loop extends from each side (figure 15, illustration 9).

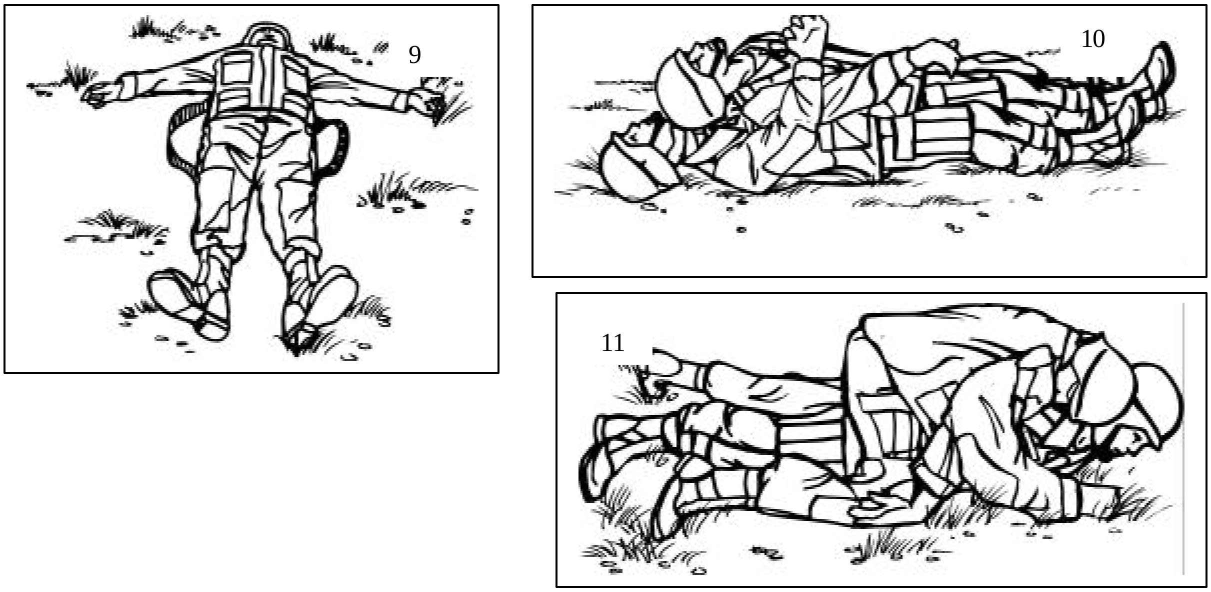


Figure 15

c. Lie between the casualty's outstretched legs (figure 15, illustration 10).

d. Thrust your arms through the loops; grasp the casualty's hand and trouser leg on his or her injured side.

e. Roll toward the casualty's uninjured side onto your abdomen, bringing the casualty onto your back (figure 15, illustration 11).

f. Adjust the sling as necessary.

g. Rise to a kneeling position. The belt will hold the casualty in place (figure 16, illustration 12).

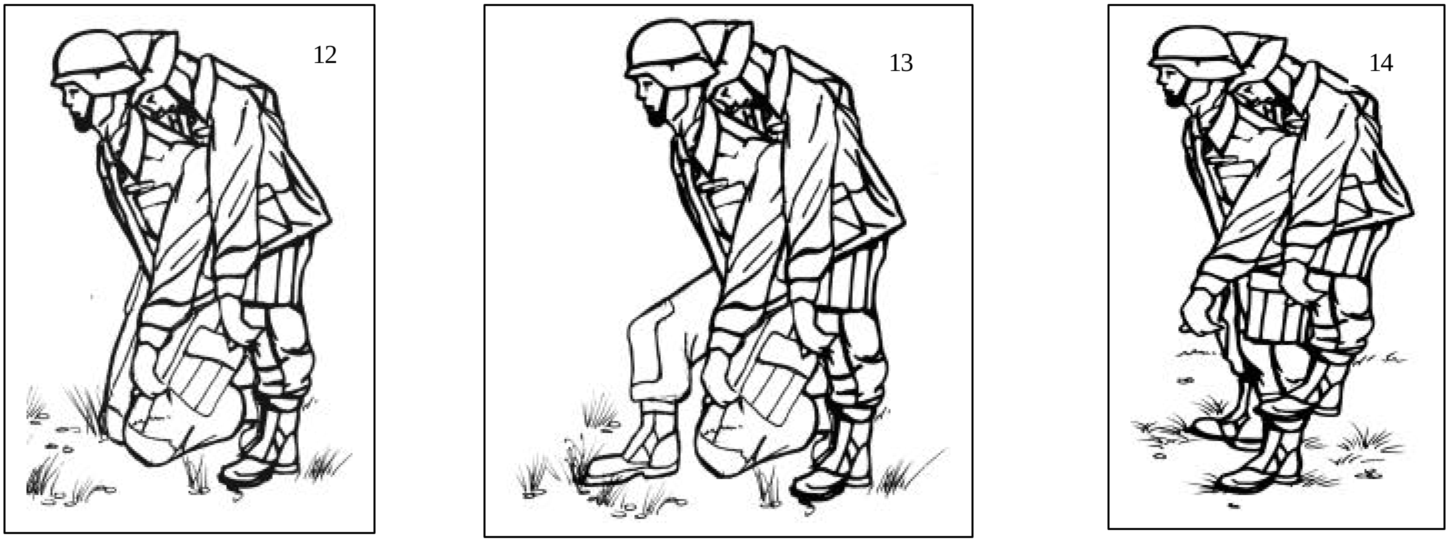


Figure 16

h. Place one hand on your knee for support and rise to an upright position (figure 16, illustration 13).

NOTE: Your shoulders now support the casualty.

i. Carry the casualty so that your hands will be free to fire your rifle, climb banks, or to surmount obstacles (figure 16, illustration 14).

9. Perform the field expedient litter.

a. Improvise a stretcher with a poncho and poles.

(1) Open the poncho and lay the two poles (or limbs) lengthwise across the center. Reach in, pull the hood toward you and lay it flat on the poncho (figure 17).

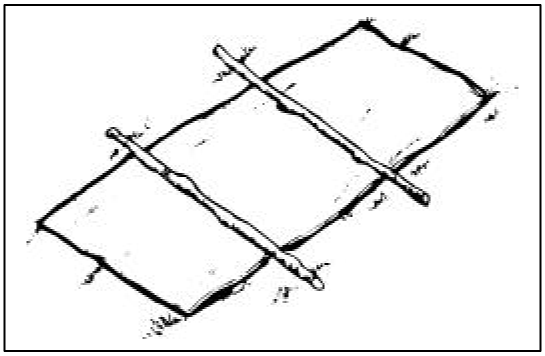


Figure 17

(2) Fold the poncho over the first pole (figure 18).

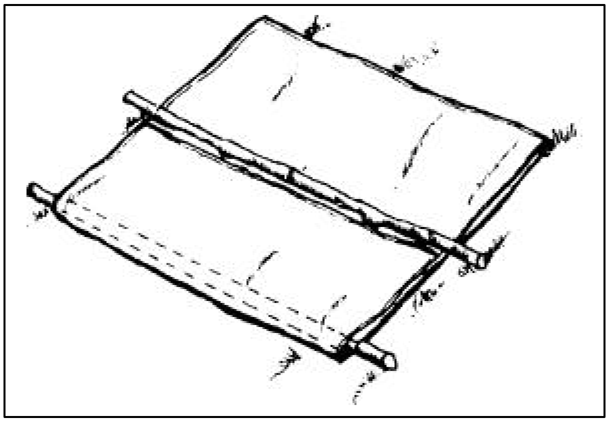


Figure 18

(3) Fold the remaining free edge of the poncho over the second pole (figure 19).

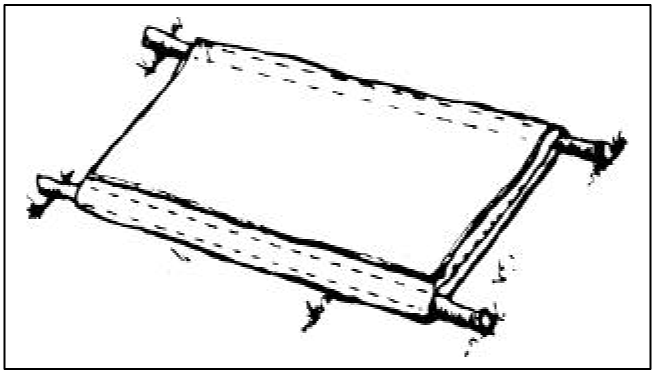


Figure 19

b. Improvise a stretcher with poles and jackets.

(1) Button two or three shirts or jackets and turn them inside out, leaving the sleeves inside (figure 20).

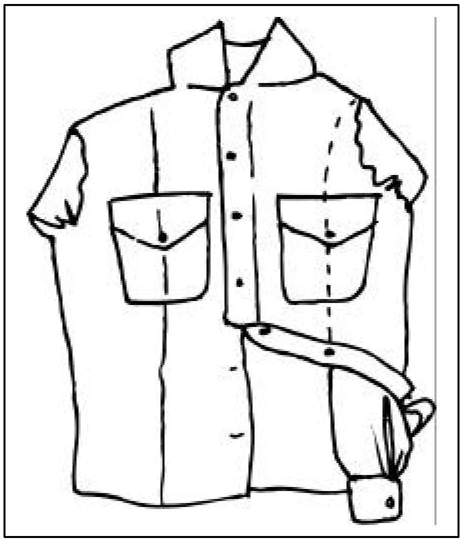


Figure 20

(2) Pass the poles through the sleeves of the shirts or jackets (figure 21).

  (a) Cut holes in both shoulders of the shirts or jackets.

  (b) Button or zip the two shirts or jackets.

  (c) Push poles through the holes.

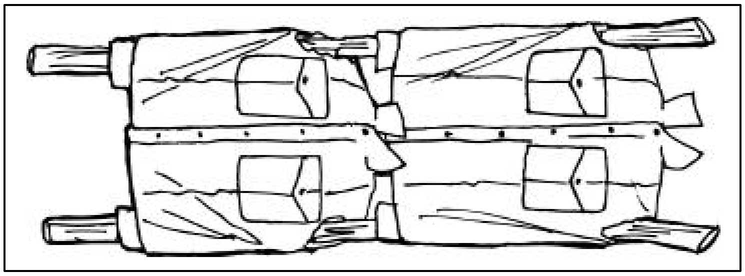


Figure 21

c. Improvise litters made by inserting poles through sacks or by rolling a blanket (Figure 22).

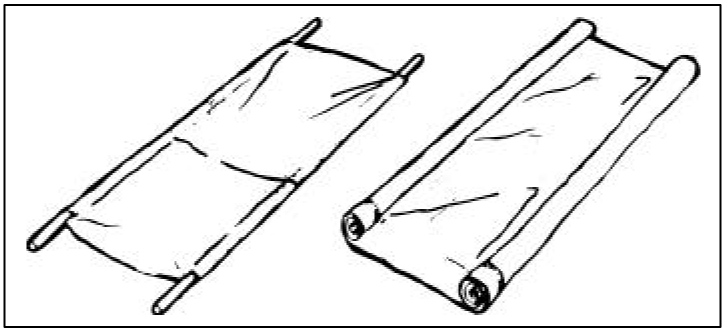


Figure 22

REFERENCE(S):

MCRP 3-02G, *First Aid*

TASK: **MCCS.21.08 (CORE) TREAT A CLIMATIC INJURY**

CONDITION: **GIVEN A CASUALTY, A FIRST AID KIT, AND AVAILABLE MATERIALS.**

STANDARD: **TO PREVENT FURTHER INJURY OR DEATH PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: The Marine is provided a combat casualty, a first aid kit, and the appropriate materials.

Standard: The Marine must treat a climatic injury, prevent further injury or death, and apply basic first aid including all basic life support.

PERFORMANCE STEPS:

1. *Evaluate the casualty*.

a. Perform any necessary lifesaving measures.

b. Check the casualty for responsiveness by gently shaking or tapping him while calmly asking, "Are you okay?"

(1) Ask a conscious casualty to identify the location(s) of pain or the area in which there is no feeling. If he or she has an airway obstruction, clear the airway.

(2) Proceed to the next step if the casualty is unconscious.

c. Check for breathing.

(1) Attempt to resuscitate if the casualty is not breathing.

(2) Clear the airway obstruction if it is apparent, then ventilate.

(a) Check for pulse.

(b) If pulse is present and the casualty is breathing, proceed to step 4.

(c) Start to resuscitate if pulse is present but the casualty is still not breathing.

(d) If pulse is not present, seek medical assistance.

d. Check for bleeding.

(1) Look for spurts of blood or blood-soaked areas of clothing.

(2) Check for both entry and exit of bullet wounds.

(3) Perform the needed first-aid measures if the casualty is bleeding from an open wound.

e. Check for shock.

- Begin the treatment immediately if signs or symptoms of shock are present.

2. Identify symptoms of climatic injury.

a. Check the casualty for signs and symptoms of heat cramps. Heat cramps are caused by an imbalance of chemicals called electrolytes in the body as a result of excessive sweating. This condition causes the casualty to exhibit the following symptoms:

(1) Muscle cramps in the extremities (arms and legs)

(2) Muscle cramps of the abdomen

(3) Heavy (excessive) sweating (wet skin)

(4) Thirst

b. Check the casualty for signs and symptoms of heat exhaustion.

(1) Heat exhaustion is caused by loss of water through sweating without adequate fluid replacement. It can occur in a fit individual who is involved in tremendous physical exertion in any hot environment. The signs and symptoms are similar to those which develop when a person goes into a state of shock.

(a) Heavy (excessive) sweating with pale, moist skin

(b) Headache

(c) Weakness

(d) Dizziness

(e) Loss of appetite

(2) The following signs and symptoms occur sometimes.

(a) Heat cramps

(b) Nausea--with or without vomiting

(c) Urge to defecate

(d) Chills (gooseflesh)

(e) Confusion, tingling of hands and/or feet

c. Check the casualty for signs and symptoms of heatstroke (sometimes called "sunstroke").

WARNING: A heatstroke is considered a medical emergency. It could result in death if treatment is delayed.

- A casualty suffering from heatstroke has usually worked in a very hot, humid environment for a prolonged time. It is caused by failure of the body's cooling mechanisms. Inadequate sweating is a factor. The casualty's skin is red (flushed), hot and dry. He or she may experience weakness, dizziness, confusion, headaches, seizures, nausea (stomach pains), and his or her respiration and pulse may be rapid and weak. Unconsciousness and collapse may occur suddenly.

3. Treat climatic injury.

a. Heat cramps

(1) Move the casualty to a cool or shady area (or improvised shade).

(2) Loosen his clothing (if not in a chemical environment).

(3) Have him slowly drink at least one canteen full of cool water.

(4) Seek medical aid should cramps continue.

.

b. Heat exhaustion

(1) Move the casualty to a cool or shady area (or improvise shade).

(2) Have him or her slowly drink at least one canteen full of cool water.

(3) Elevate his or her legs.

(4) Do not let the casualty participate in strenuous activity for the remainder of the day.

(5) Monitor the casualty until the symptoms are gone, or medical aid arrives.

(6) Loosen his clothing (if not in a chemical environment).

(7) Seek medical aid if cramps continue.

WARNING: Do not loosen the casualty's clothing if in a chemical environment.

c. Heat Stroke (sometimes called "sunstroke")

(1) Move casualty to a cool or shaded area (or improvise shade).

(2) Loosen or remove his or her clothing (except in a chemical environment).

(3) Spray or pour water on him or her; fanning him or her to permit a coolant effect of evaporation.

(4) Massage his extremities and skin which increases the blood flow to those body areas; thereby aiding the cooling process.

(5) Elevate his or her legs.

(6) Have him or her slowly drink at least one canteen full of water if he or she is conscious.

NOTE: Start cooling casualty immediately. Continue cooling while awaiting transportation and during the evacuation.

(7) Seek medical aid because the casualty should be transported to a medical treatment facility as soon as possible. Do not interrupt cooling process or lifesaving measures to seek help.

(8) Casualty should be continually monitored for development of conditions which may require the performance of necessary basic lifesaving measures, such as clearing the airway, mouth-to-mouth resuscitation, preventing shock, and/or bleeding control.

4. Perform preventive measures.

- Prevention. The ideal fluid replacement is water. The availability of sufficient water during work or training in hot weather is very important. The body, which depends on water to help cool it, can lose more than a quart of water per hour through sweat. Lost fluids must be replaced quickly. Therefore, during these work or training periods, you should drink at least one canteen full of water every hour. In extremely hot climates or extreme temperatures, drink at least a full canteen of water every half hour, if possible. In such hot climates, the body depends mainly upon sweating to keep it cool, and water intake must be maintained to allow sweating to continue. Also, keep in mind that a person who has suffered one heat injury is likely to suffer another. Before a heat injury casualty returns to work, he or she should have recovered well enough not to risk a recurrence. Other conditions that may increase heat stress and cause heat injury include infections, fever, recent illness or injury, overweight, dehydration, exertion, fatigue, heavy meals, and alcohol.

NOTE: Salt tablets should not be used as a preventive measure.

5. Seek medical assistance immediately.

REFERENCE(S):

MCRP 3-02G, *First Aid*

TASK: **MCCS .22.01 (CORE) MAINTAIN PHYSICAL FITNESS**

CONDITION: **GIVEN THE REQUIREMENT.**

STANDARD: **TO ACHIEVE THE PERFORMANCE STEPS PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition:	The Marine is provided a specific test event, demonstration and/or instruction, a test site or area (a measured course), and support personnel (safety, control, medical) as required. The unit commander in a single session of one morning or afternoon (or how long the requirement takes), with adequate rest periods between events, describes the sequence and the events to be conducted.
Standard:	The Marine must demonstrate a physical condition capable of passing the physical fitness test at any time. The Marine must meet and maintain the minimum acceptable level of fitness for the sex and age group. The Marine must demonstrate a high level of fitness, strength, courage, agility, endurance, and a willingness to complete the event.
Administrative Notes	Every Marine must be physically fit, regardless of age, grade, or duty assignment. Such fitness is essential to the day-to-day effectiveness and combat readiness of the Marine Corps. The physical fitness test (PFT) is an instrument to measure the level of physical fitness of all Marines.

PERFORMANCE STEPS:

1. *Establish physical fitness.*

a. The unit commander's directed physical conditioning program (PCP) provides for individual development through supervised individual effort maintained by judicious leadership at all levels of command. To develop the desired level of physical fitness, unit commanders are advised that a minimum program of 3 hours per week is mandatory. The program must encompass at least three exercise periods weekly; the minimum desirable length for each exercise period is 60 minutes. The unit commander if dictated by the local training situation may authorize shorter periods.

b. Although a precise definition is elusive, physical fitness is generally considered to be the capacity of an individual to perform given physical tasks involving muscular effort. Implied in this definition is the presence of such components as agility, power, balance, kinesthetic perception, flexibility, speed, reaction time, cardio-endurance, and strength. Some of these components are innate and can be developed only to a limited degree, but others respond quite well to training efforts. A successful PCP, therefore, will include the following types of exercises:

(1) Anaerobic Conditioning. This category includes exercises to increase muscular strength, speed, flexibility, and agility; all of which are essential to total fitness.

(2) Progressive Resistance Training. Although this type of conditioning is technically anaerobic, the correlation of muscular strength and endurance to success in combat operations demands that progressive resistance training be considered separately. Generally equated with weight training, resistance training can also be accomplished by means of isometric exercises (i.e. pushing against a wall), isotonic exercises (i.e. push-ups, sit-ups, weight lifting), isokinetic machines, partner resistance exercises, and other similar activities and can be conducted concurrently with some types of cardiovascular conditioning activities. Base/station fitness centers should be considered as a resource for progressive resistance training.

(3) Aerobic Conditioning. This conditioning permits continuous physical activity without a decline in performance and allows for rapid recovery following fatiguing physical activity. Exercises that enhance cardiovascular endurance must occupy a prominent position in any military fitness regimen.

c. Using innovative combinations of the types of exercises discussed above, commanders will foster viable conditioning programs in the following areas:

(1) Physical Readiness Training. Physical readiness training is comprised of general physical conditioning exercises that develop and maintain the strength, endurance, and physical skills needed to sustain individuals during combat.

(2) Occupational Conditioning. Closely related to physical readiness training, occupational conditioning prepares Marines to successfully handle the demands of their billets. Examples are progressive load bearing marches for infantry MOSs (although marching long distances should not be overlooked for the benefits it provides to all Marines), dry net training, swimming, obstacle courses, confidence courses, etc.

(3) Competitive Conditioning Activities. Competitive conditioning activities consist of teams or individuals competing against an opponent (not necessarily a human opponent) to win. This involves a combination of sports and military skills designed to foster competitive attitudes and develop unit pride and *esprit-de-corps*. This should not be construed as an unqualified endorsement of varsity or intramural sports. Marines must never forget the primacy of combat readiness; the stark truth of the saying “No enemy has ever been killed by a basketball, volleyball, etc.” must remain foremost in every mind. In this vein, activities such as speed march reaction courses and orienteering provide both conditioning and military benefits and should not be overlooked.

(4) Remedial Physical Conditioning. Remedial physical conditioning is a process by which physically substandard Marines are conditioned to meet prescribed standards.

2. Maintain weight and/or body fat standards.

a. The Marine Corps has traditionally been associated with a military image that is neat and trim in appearance. It is essential to the day-to-day effectiveness and combat readiness of the Marine Corps that every Marine maintains the established standards of health, fitness, and appearance. The habits of self-discipline required in gaining and maintaining a healthy body, inherent in the Marine Corps' way of life, must be part of the character of every Marine.

NOTE: Marines who exceed Marine Corps weight standards or display poor military appearance due to improper weight distribution will be placed on the unit's weight and personal appearance program.

b. Maintain weight in proportion to height standards (figures 1 and 2).

Male Marines (regardless of age)

Height (inches)	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78
Weight (pounds)															
minimum	105	106	107	111	115	119	123	127	131	135	139	143	147	151	153
maximum	160	165	170	175	181	186	192	197	203	209	214	219	225	230	235

Figure 1 (Male)

Female Marines (regardless of age)

Height (inches)	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
Weight (pounds)																
minimum	90	92	94	96	98	100	102	104	106	109	112	115	118	122	125	128
maximum	121	123	125	127	130	134	138	142	147	151	156	160	165	170	175	180

Figure 2 (Female)

c. Maintain body fat standards.

(1) Guidelines for body fat measurement.

(a) Initial body composition screening is conducted using height/weight measurements. Marines exceeding the maximum allowable weight will be tape measured for percent body fat.

(b) Marines will be measured for body fat by personnel responsible for monitoring the unit’s weight control program or by medical personnel. Male and female Marines will be measured by individuals of the same gender.

(c) Procedures for determining percent body fat require the use of a standard, non-stretching (cloth or fiberglass) tape measure. The tape should be applied to body landmarks with sufficient tension to keep it in place without indenting the skin surface. Marines should report for measurements in PT gear. With the exception of the hip measurement for women, all measurements will be taken on bare skin.

(d) To ensure greater accuracy, measurements will be taken twice. The lower of the two measurements will be recorded. At each body site to be measured, place sufficient tension on the tape to hold it in place against the body without indenting the skin. An added assist may be gained by placing a paperclip to hold the tape in position. This technique will help to keep the tape taut to prevent slippage, and enable the measurer to step back and observe for proper tape placement.

(2) Procedures for body fat percent measurement (Male).

(a) Measure height without shoes to the nearest half-inch. Instruct the Marine to stand with feet together flat on the deck, to take a deep breath, and to stand fully erect.

(b) Measure the neck circumference by placing the edge of the tape measure flush with the bottom of the larynx (Adams apple) and perpendicular to the long axis of the neck. The Marine should look straight ahead during the measurement, with shoulders down (not hunched). For neck measurement in excess of the whole inch, round the measurement UP to the nearest ½ inch and record (e.g., round 16 1/4 inch to 16 1/2 inches).

(c) Measure abdominal circumference against the skin at the navel, level and parallel to the deck. Arms are at the sides. Take measurement at the end of the Marine’s normal, relaxed exhalation. Round abdominal measurement DOWN to the nearest ½ inch and record (e.g., round 34 3/4 to 34 1/2 inches).

(d) Determine percent body fat by subtracting the neck measurement from the abdominal measurement and comparing this value (Circumference Value = Abdomen Circumference – Neck Circumference (in inches) against the height measurement. (Refer to the chart “PERCENT FAT ESTIMINATION FOR MEN” totaling four charts located within MCO 6100.10B W/CH 1-4 in ALMAR 326/97.)

(3) Procedures for body fat percent measurement (Female).

(a) Measure height without shoes up to the nearest half-inch. Instruct the Marine to stand with feet together flat on the deck, to take a deep breath, and to stand fully erect.

(b) Measure the neck circumference by placing the edge of the tape measure flush with the bottom of the larynx and perpendicular to the long axis of the neck. The Marine should look straight ahead during the measurement, with shoulders down (not hunched). Round neck measurement UP to the nearest 1/2 half inch and record (e.g., round 13 3/8 inches to 13 1/2 inches).

(c) Measure the natural waist circumference, against the skin, at the point of minimal abdominal circumference, usually located about halfway between the navel and the lower end of the sternum (breastbone). If you can’t find this site easily, take several measures at probable sites and use the smallest value. Ensure the tape is level and parallel to the deck and arms are at the sides. Take measurements at the end of a normal relaxed exhalation. Round natural waist measurement DOWN to the nearest 1/2 half inch and record (e.g., round 28 5/8 inches to 28 1/2 inches)

(d) Measure the hip circumference while facing the Marine’s right side by placing the tape around the hips so that it passes over the greatest protrusion of the buttocks as viewed from the side. Ensure the tape is level and parallel to the deck. Apply sufficient tension on the tape to minimize the effect of clothing. Round the hip measurement DOWN to the nearest 1/2 inch and record (e.g., round 38 3/8 inches to 38 inches).

(e) Determine percent body fat by adding the waist and the hip measurements, subtracting the neck measurement, and comparing values (Circumference Value = Natural Waist + Hip Circumference – Neck Circumference (in inches) against the Marines height measurement. (Refer to the chart “PERCENT FAT ESTIMATION FOR WOMEN” totaling eight charts located within MCO 6100.10B W/CH 1-4 in ALMAR 326/97.)

3. Pass the physical fitness test (PFT) for male Marines and achieve the acceptable levels of physical fitness for male Marines.

NOTE: If a male Marine does not meet the required minimum in any event, they fail the entire test, regardless of total number of points earned. Figure 3 lists the minimum acceptable performance standards and required minimum scores for male Marines. Figure 4 relates these scores to the point system.

Minimum Acceptable Performance Standards for Male Marines

Age	Pull-ups	Sit-ups	3 Mile Run (minutes)	Subtotal Points	Required Additional Points	Passing Score
17-26	3	50	28	105	30	135
27-39	3	45	29	94	16	110
40-45	3	45	30	88	0	88
46+	3	40	33	65	0	65

Minimum Score Classifications for Male Marines

Age	Unsatisfactory	3rd Class	2nd Class	1st Class
17-26	0-134	135	175	225
27-39	0-109	110	150	200
40-45	0-87	88	125	175
46+	0-64	65	100	150

Figure 3

Point System. The table below will be used to assign a point value to score each of the three events for male Marines. Maximum attainable score for any one event is 100 points, while 300 points represents a perfect score.

Example:
6 pull-ups = 30 points
40 sit-ups = 40 points
23:50 run = 65 points
Total Score = 135 points

	PULL-UPS	SIT-UPS	RUN	SCORE	PULL-UPS	SIT-UPS	RUN	SCORE	PULL-UPS	SIT-UPS	RUN	SCORE	PULL-UPS	SIT-UPS	RUN
100	20	100	18:00	75	15	75	22:10	50	10	50	26:20	25	5	25	30:30
99		99	18:10	74		74	22:20	49		49	26:30	24		24	30:40
98		98	18:20	73		73	22:30	48		48	26:40	23		23	30:50
97		97	18:30	72		72	22:40	47		47	26:50	22		22	31:00
96		96	18:40	71		71	22:50	46		46	27:00	21		21	31:10
95	19	95	18:50	70	14	70	23:00	45	9	45	27:10	20	4	20	31:20
94		94	19:00	69		69	23:10	44		44	27:20	19		19	31:30
93		93	19:10	68		68	23:20	43		43	27:30	18		18	31:40
92		92	19:20	67		67	23:30	42		42	27:40	17		17	31:50
91		91	19:30	66		66	23:40	41		41	27:50	16		16	32:00
90	18	90	19:40	65	13	65	23:50	40	8	40	28:00	15	3	15	32:10
89		89	19:50	64		64	24:00	39		39	28:10	14		14	32:20
88		88	20:00	63		63	24:10	38		38	28:20	13		13	32:30
87		87	20:10	62		62	24:20	37		37	28:30	12		12	32:40
86		86	20:20	61		61	24:30	36		36	28:40	11		11	32:50
85		85	20:30	60		60	24:40	35		35	28:50	10		10	33:00
84		84	20:40	59		59	24:50	34		34	29:00	9		9	33:10
83		83	20:50	58		58	25:00	33		33	29:10	8		8	33:20
82		82	21:00	57		57	25:10	32		32	29:20	7		7	33:30
81		81	21:10	56		56	25:20	31		31	29:30	6		6	33:40
80	16	80	21:20	55	11	55	25:30	30	6	30	29:40	5	1	5	33:50
79		79	21:30	54		54	25:40	29		29	29:50	4		4	34:00
78		78	21:40	53		53	25:50	28		28	30:00	3		3	34:30
77		77	21:50	52		52	26:00	27		27	30:10	2		2	35:00
76		76	22:00	51		51	26:10	26		26	30:20	1		1	36:00

Figure 4

NOTE: Male Marines who are performing their physical fitness test at locations at or above 4500 feet above mean sea level should subtract 1:30 from their actual run time to complete their score. For example: A Marine who ran the 3-mile course in 23:50 would receive 74 points vice 65 points. The following is a hypothetical example of a PFT point tally under these conditions.

6 pull-ups = 30 points
40 sit-ups = 40 points
23:50 run = 74 points
Total Score = 144 points

a. Take the pull-up and chin-up test.

(1) Perform a complete repetition (figures 5 and 6).

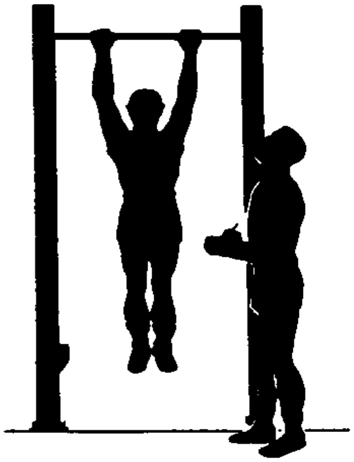


Figure 5. Starting and final position.

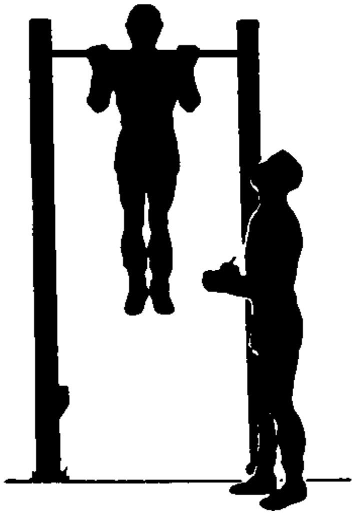


Figure 6. Pull-up and chin up position.

(a) Step, lift, or jump to reach the bar. Grasp the bar with both palms.

(b) Postion hands either forward or backwards on the bar. Both palms must face in the same direction.

(c) Extend arms fully to a dead hang and ensure that your feet are off of the ground.

(d) Raise your body with yours arms until your chin is above the bar as in figure 6.

(e) Lower your body until your arms are fully extended again as in figure 5.

(f) Repeat as many times as possible.

(2) Complete the required minimum for the pull-up and chin-up events.

(3) Earn the required additional points for your age group.

b. Take the bent-knee crunch test (in 2 minutes, with assistance, if desired).

(1) Perform a complete repetition (figures 7 and 8).

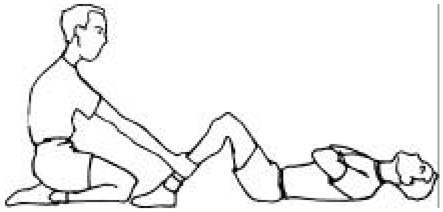


Figure 7. Starting and Final Supine Position.

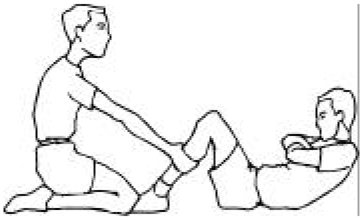


Figure 8. Bent-Knee Assisted Crunch.

(a) Assume a supine starting position as in figure 7.

(b) Shoulder blades must touch the deck.

(c) Flex your knees.

(d) Ensure that your feet are flat and that they remain on the ground.

(e) Fold your arms across and keep them against your chest or rib cage with no gap between the forearms and the chest or rib cage.

(f) Raise your upper body from the supine position until the elbows or forearms touch the thighs as in figure 8.

(g) No bouncing or arching of the lower back is authorized, and the buttocks will remain in constant contact with the deck throughout the exercise.

NOTES: An assistant may grasp the participant's feet or legs below the knee in whatever manner is most comfortable for the participant.

Kneeling or sitting on the feet is permitted.

Individuals may rest in either the up or down position.

(h) Return to the supine position.

(i) Ensure that your shoulder blades touch the ground to complete the repetition.

(j) Repeat as many times as possible during the time limit.

(2) Complete the required minimum for the bent-knee crunch event.

(3) Earn the required additional points for the age group.

c. Take the 3-mile run test.

(1) Execute the proper running form and technique (figure 9).

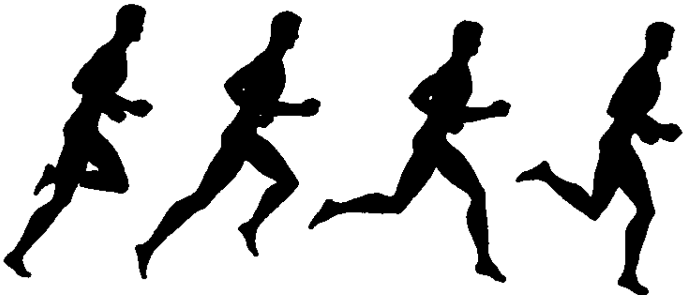


Figure 9

(a) Keep your head erect.

(b) Bend your body slightly forward above your waist.

(c) Hold your arms at a loose thrust position.

(d) Alternate your arms from front to rear in straight planes.

(e) Point your toes straight ahead.

(f) Breathe through your mouth.

(2) Complete the required minimum for the 3-mile run event.

NOTE: Run the measured course as rapidly as possible.

(3) Earn the required additional points for your age group.

4. *Pass the physical fitness test (PFT) and achieve the acceptable levels of physical fitness for female Marines.*

NOTE: If a female Marine does not meet the required minimum in any event, she fails the entire test, regardless of total number of points earned. Figure 10 lists the minimum acceptable performance standards and required minimum scores for female Marines. Figure 11 indicates the point system.

Minimum Acceptable Performance Standards for Female Marines

Age	Flex Arm Hang (seconds)	Sit-ups	3 Mile Run (minutes)	Subtotal Points	Required Additional Points	Passing Score
17-26	15	50	31	105	30	135
27-39	15	45	32	94	16	110
40-45	15	45	33	88	0	88
46+	15	40	36	65	0	65

Minimum Score Classifications for Female Marines

Age	Unsatisfactory	3rd Class	2nd Class	1st Class
17-26	0-134	135	175	225
27-39	0-109	110	150	200
40-45	0-87	88	125	175
46+	0-64	65	100	150

Figure 10

Point System. The table below will be used to assign a point value to score each of the three events. Maximum attainable score for any one event is 100 points, while 300 points represents a perfect score.

Example: 45 seconds = 50 points
60 sit-ups = 60 points
28:40 run = 54 points
Total Score = 164 points

	Flex Arm Hang	SIT-UPS	RUN	SCORE	Flex Arm Hang	SIT-UPS	RUN	SCORE	Flex Arm Hang	SIT-UPS	RUN	SCORE	+ULL-UPS	SIT-UPS	RUN
100	70	100	21:00	75		75	25:10	50	45	50	29:20	25	25	25	33:30
99		99	21:10	74	57	74	25:20	49		49	29:30	24	24	24	33:40
98	69	98	21:20	73		73	25:30	48	44	48	29:40	23	23	23	33:50
97		97	21:30	72	56	72	25:40	47		47	29:50	22	22	22	34:00
96	68	96	21:40	71		71	25:50	46	43	46	30:00	21	21	21	34:10
95		95	21:50	70	55	70	26:00	45		45	30:10	20	20	20	34:20
94	67	94	22:00	69		69	26:10	44	42	44	30:20	19	19	19	34:30
93		93	22:10	68	54	68	26:20	43		43	30:30	18	18	18	34:40
92	66	92	22:20	67		67	26:30	42	41	42	30:40	17	17	17	34:50
91		91	22:30	66	53	66	26:40	41		41	30:50	16	16	16	35:00
90	65	90	22:40	65		65	26:50	40	40	40	31:00	15	15	15	35:10
89		89	22:50	64	52	64	27:00	39	39	39	31:10	14	14	14	35:20
88	64	88	23:00	63		63	27:10	38	38	38	31:20	13	13	13	35:30
87		87	23:10	62	51	62	27:20	37	37	37	31:30	12	12	12	35:40
86	63	86	23:20	61		61	27:30	36	36	36	31:40	11	11	11	35:50
85		85	23:30	60	50	60	27:40	35	35	35	31:50	10	10	10	36:00
84	62	84	23:40	59		59	27:50	34	34	34	32:00	9	9	9	36:10
83		83	23:50	58	49	58	28:00	33	33	33	32:10	8	8	8	36:20
82	61	82	24:00	57		57	28:10	32	32	32	32:20	7	7	7	36:30
81		81	24:10	56	48	56	28:20	31	31	31	32:30	6	6	6	36:40
80	60	80	24:20	55		55	28:30	30	30	30	32:40	5	5	5	36:50
79		79	24:30	54	47	54	28:40	29	29	29	32:50	4	4	4	37:00
78	59	78	24:40	53		53	28:50	28	28	28	33:00	3	3	3	37:10
77		77	24:50	52	46	52	29:00	27	27	27	33:10	2	2	2	37:20
76	58	76	25:00	51		51	29:10	26	26	26	33:20	1	1	1	37:30

Figure 11

NOTE: Marines who are performing their physical fitness test at locations at or above 4500 feet above mean sea level should subtract 1:30 from their actual run time to complete their score. For example: A Marine who ran the 3-mile course in 28:40 would receive 63 points vice 54 points. The following is a hypothetical example of a PFT point tally under these conditions.

Example: 45 seconds = 50 points
60 sit-ups = 60 points
27:10 run = 63 points
Total Score = 173 points

a. Take the flexed-arm hang test.

(1) Perform a complete repetition (figures 12 and 13).

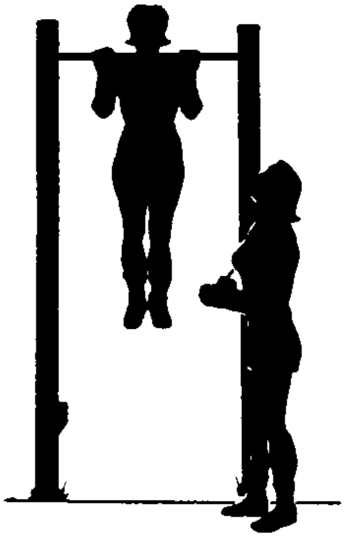


Figure 12. Starting position and flexed arm hang.

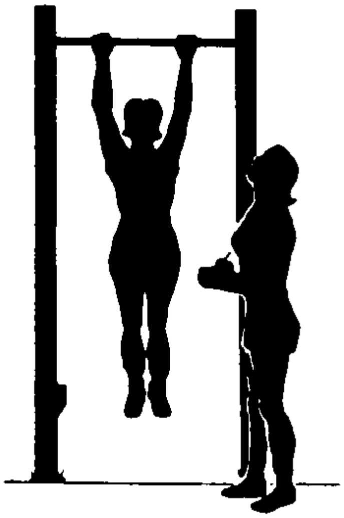


Figure 13. Final position.

(a) Using support or assistance to reach the bar, grasp the bar with both hands.

(b) Position the hands either forward or backward on the bar; both palms must face in the same direction.

(c) Flex your elbows so that your chin is over or level with the bar as in figure 10.

(d) Maintain elbow flexion as long as possible until attaining the dead hang position as in figure 11.

(2) Complete the event in the minimum time listed for the category.

NOTES: The score is the length of time in seconds that some degree of flexion at the elbows is maintained. The chin may not rest on the bar during the exercise.

(3) Earn the required additional points for your age group.

b. Take the bent-knee crunch test (in 2 minutes, with assistance, if desired).

(1) Perform a complete repetition (figures 14 and 15).

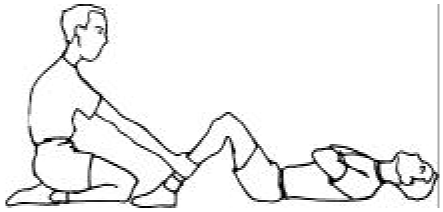


Figure 14. Starting and Final Supine Position

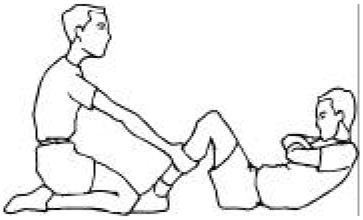


Figure 15. Bent-Knee Assisted Sit-up Position

(a) Assume a supine starting position as in figure 14.

(b) Shoulder blades must touch the deck.

(c) Flex your knees.

(d) Ensure that your feet are flat and that they remain on the ground.

(e) The arms are folded across and remain against the chest or rib cage with no gap between the forearms and the chest or rib cage.

(f) Raise your upper body from the supine position until the elbows or forearms touch the thighs as in figure 13.

(g) No bouncing or arching of the lower back is authorized, and the buttocks will remain in constant contact with the deck throughout the exercise.

NOTES: An assistant may grasp the participant's feet or legs below the knee in whatever manner is most comfortable for the participant.

Kneeling or sitting on the feet is permitted.

Individuals may rest in either the up or down position.

(h) Return to the supine position.

(i) Ensure that your shoulder blades touch the ground to complete the repetition.

(j) Repeat as many times as possible during the time limit.

(2) Complete the required minimum for the bent-knee crunch event.

(3) Earn the required additional points for the age group.

c. Take the 3-mile run test.

(1) Execute the proper running form and technique (figure 14).

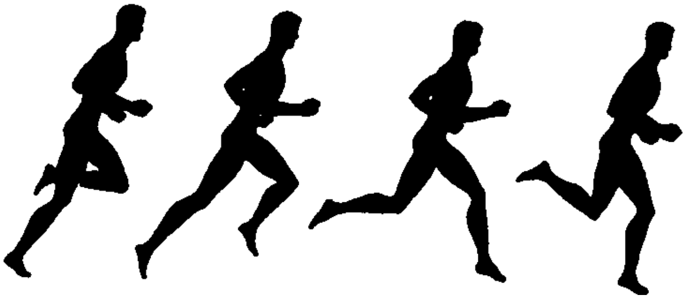


Figure 14

(a) Keep your head erect.

(b) Bend your body slightly forward above your waist.

(c) Hold your arms at a loose thrust position.

(d) Alternate your arms from front to rear in straight planes.

(e) Point your toes straight ahead.

(f) Breathe through your mouth.

(2) Complete the required minimum for the 3-mile run event.

NOTE: Run the measured course as rapidly as possible.

(3) Earn the required additional points for your age group.

REFERENCE(S):

MC0 6100.3, *Physical Fitness*
MCO P1020.34, *Marine Corps Uniform Regulation*
MCO 6100.10b W/CH 1-4, *Weight Control and Military Appearance*

TASK: **MCCS.23.01 (CORE) APPLY THE FUNDAMENTS OF MARTIAL ARTS**

CONDITION: **GIVEN THE REQUIREMENT AND WITHOUT THE AID OF THE REFERENCES.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given the requirement and without the aid of references.

Standard: The Marine must execute the basic warrior stance and angles of movement while observing all safety precautions, and also identify target areas of the body without the aid of references.

PERFORMANCE STEPS:

1. Execute the basic warrior stance.

a. Place your feet shoulder width apart.

b. Keeping your head and eyes on your opponent, take a half step forward with your lead foot, and pivot on your heels so your hips and shoulders are at approximately a 45-degree angle to the right.

c. Distribute your body weight evenly on both legs. Bend knees slightly.

d. Curl your fingers naturally into the palm of your hand. Position the thumb across the index and middle fingers.

e. Bring your hands up to your face at chin level, with palms facing each other as shown in figure 1.

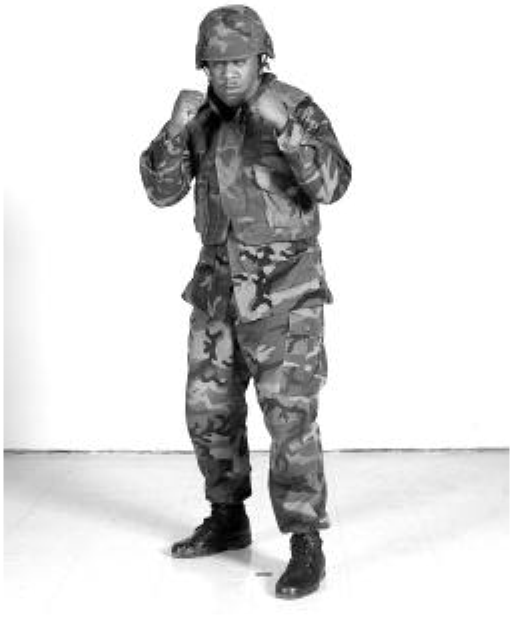


Figure 1

2. Execute angles of movement.

a. Consider a 360-degree circle around an opponent. You can move anywhere in this circle to gain a tactical advantage and make accessible different target areas of your opponent's body.

b. When facing an opponent, movement is made in a 45-degree angle to either side of the opponent. Moving at a 45-degree angle is the best way to both avoid an opponent's strike and to put yourself in the best position to attack an opponent as shown in figure 2.

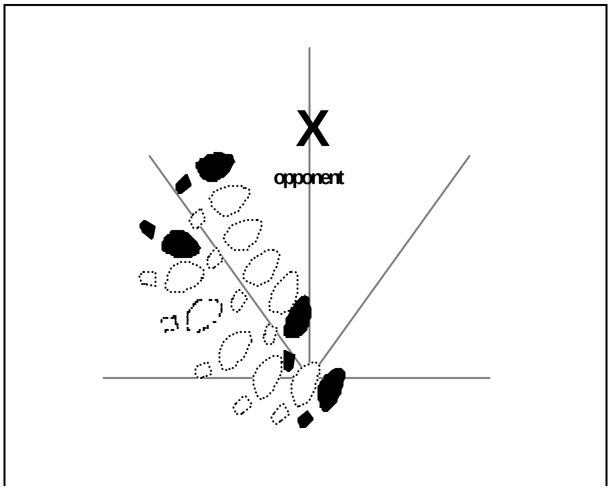


Figure 2

c. Since most close combat movements are initiated from the basic warrior stance, you must know how to move in all directions while maintaining your stance. During any movement, the legs or feet should not be crossed. Once a movement is completed, you should resume the basic warrior stance. This will help to protect yourself and to put you in the proper position for launching an attack against your opponent.

(1) Forward. To move forward from the basic warrior stance, move with the same side foot as the direction that you intend to move forward at a 45-degree angle from your body, approximately 12 to 15 inches. Keep your toes pointed toward the opponent. Quickly bring the foot from behind to the basic warrior stance.

(2) Backward. To move to the rear from the basic warrior stance, execute the forward movement in reverse.

3. Identify target areas of the body.

a. During close combat, the parts of the opponent's body that are readily accessible will vary with each situation and throughout a confrontation. The goal is to attack those areas that are readily accessible.

b. These areas are divided into five major groups:

- Head
- Neck
- Torso
- Groin
- Extremities

REFERENCE(S):

MCO 1500.54, *Marine Corps Martial Arts Training Program (MCMATP)*
MCRP 3-02B, *Close Combat*

ADMINISTRATIVE INSRUCTIONS:

Ensure all safety precautions are adhered to when performing this task.

TASK: **MCCS.23.02 (CORE) EXECUTE PUNCHES**

CONDITION: **GIVEN THE REQUIREMENT, BLACK LEATHER GLOVES, STRIKING PAD, AND WITHOUT THE AID OF THE REFERENCES.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given the requirement, black leather gloves, striking pad, and without the aid of the references.

Standard: The Marine must execute punches while adhering to all safety precautions in accordance with the references.

PERFORMANCE STEPS:

1. *Execute a lead hand punch*.

a. Assume the basic warrior stance.

b. Snap your lead hand out to nearly full extension, while rotating your palm to the deck as shown in figure 1.

c. Keep your rear hand in place to protect your head.

d. Make contact on the opponent with the first two knuckles of your fist.

e. Immediately retract your hand, resuming the basic warrior stance.

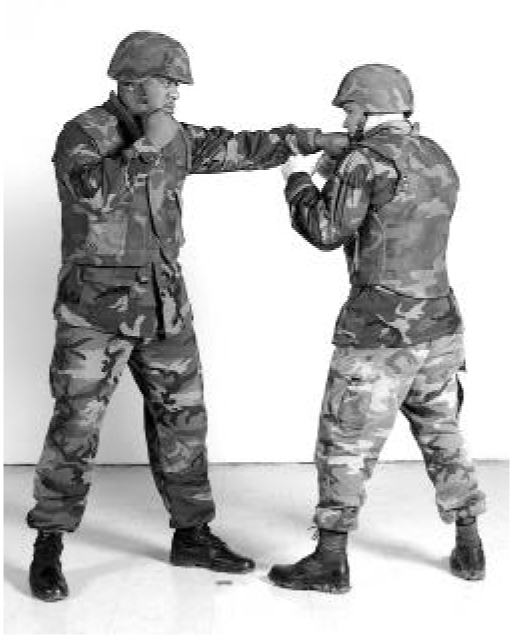


Figure 1

2. *Execute a rear hand punch*.

a. Assume the basic warrior stance.

b. Forcefully rotate your hips and shoulders toward the opponent and thrust your rear hand straight out with palm down to nearly full extension as shown in figure 2.

c. Keep your lead hand in place to protect your head.

d. Make contact on the opponent with the first two knuckles of your fist.

e. Immediately retract your hand, resuming the basic warrior stance.

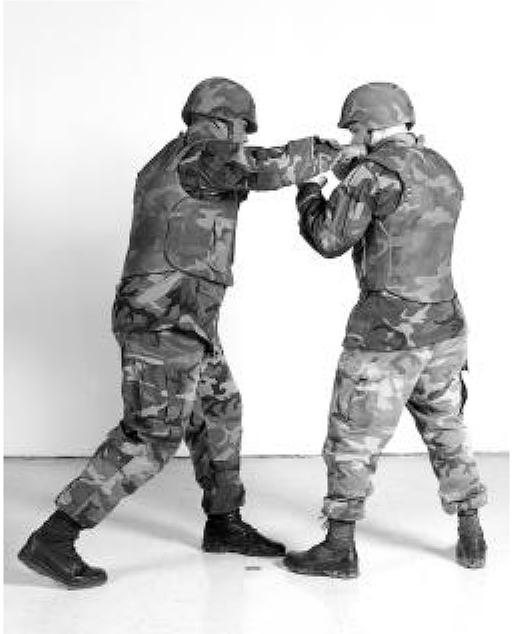


Figure 2

3. *Execute an uppercut*.

a. Assume the basic warrior stance.

b. Bend your arm while rotating your palm inboard.

c. At the same time, thrust your fist straight up toward the opponent’s chin or jaw as shown in figure 3.

d. Keep your lead hand in place to protect your head.

e. Make contact on the opponent with the first two knuckles of your fist.

f. Immediately retract your hand, resuming the basic warrior stance.

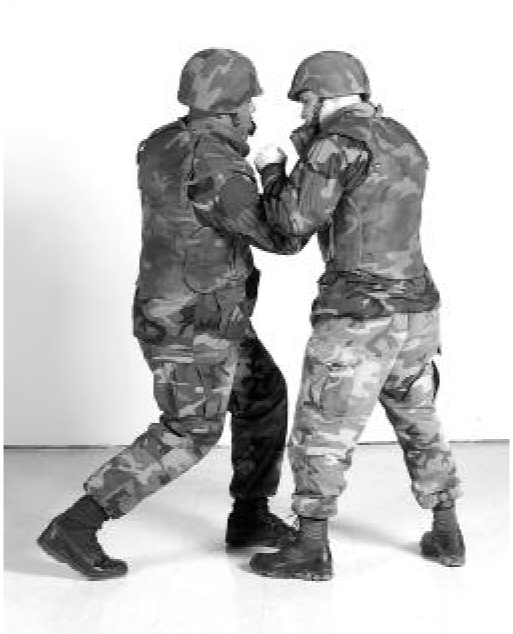


Figure 3

4. Execute a hook.

a. Assume the basic warrior stance.

b. Thrust your rear arm in a hooking motion toward the opponent, forcefully rotating your right shoulder and hip toward the opponent as shown in figure 4. Do not telegraph the punch by extending the arm too far out to the side.

c. Make contact on the opponent with the first two knuckles of your fist.

d. Continue rotating your shoulder and hip, driving your fist through the target.

e. Immediately retract your hand, resuming the basic warrior stance.

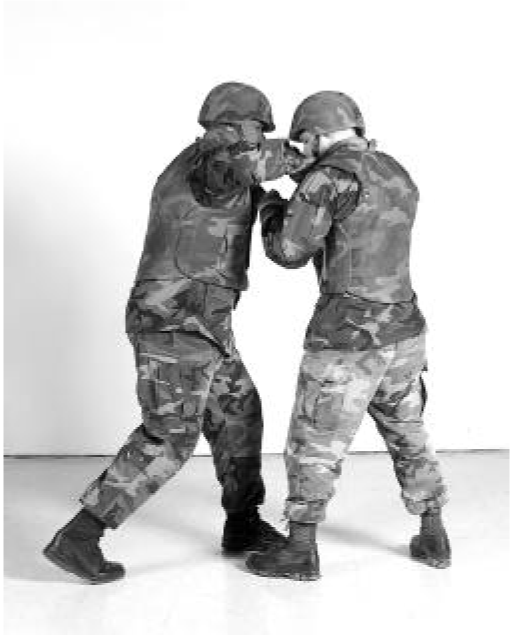


Figure 4

REFERENCE(S):

MCO 1500.54, *Marine Corps Martial Arts Training Program (MCMATP)*
MCRP 3-02B, *Close Combat*

ADMINISTRATIVE INSTRUCTIONS:

Medical support must be available in training area when performing this task.
Ensure all safety precautions are adhered to when performing this task.

TASK: **MCCS.23.03 (CORE) EXECUTE FALLS**

CONDITION: **GIVEN THE REQUIREMENT, MOUTHPIECE, AND WITHOUT THE AID OF THE REFERENCES.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given the requirement, mouthpiece, and without the aid of the references.

Standard: The Marine must execute falls while adhering to all safety precautions in accordance with the references.

PERFORMANCE STEPS:

1. Execute a front break-fall.

a. Assume a kneeling position.

b. Bend your elbows and place your palms facing out in the position that will allow you to spread and absorb the impact of the fall as shown in figure 1.

c. Fall forward, breaking your fall with your forearms and palms. The forearms and hands, down to the fingertips, should strike the deck simultaneously.

d. Resist with forearms and hands to keep your head raised off the deck as shown in figure 2.

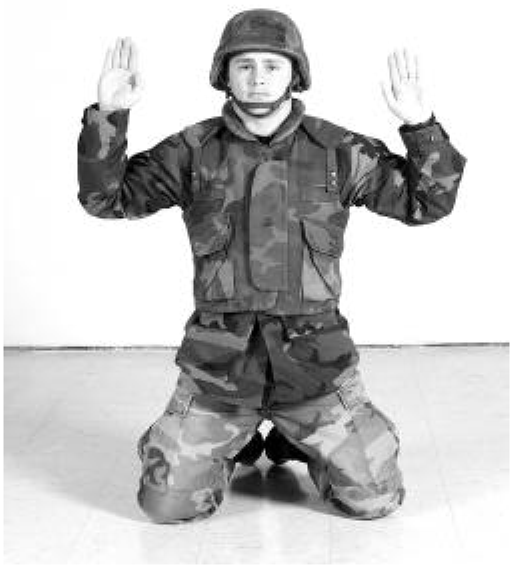


Figure 1

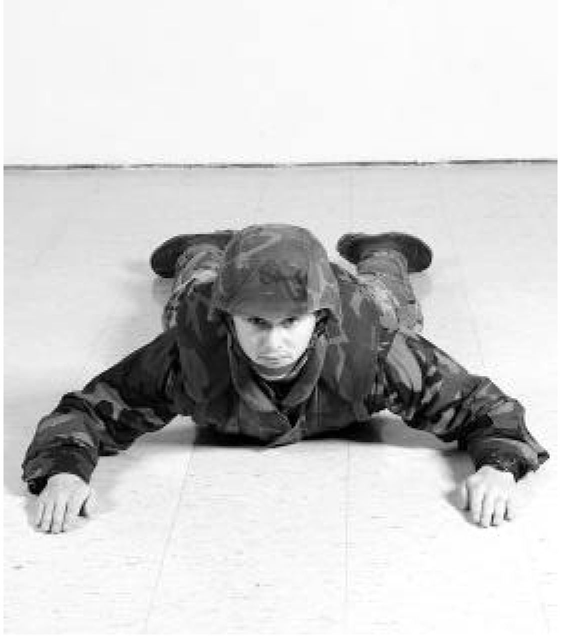


Figure 2

2. Execute a back break-fall.

a. Squat down on the deck on the balls of your feet.

b. Cross your hands in front of your chest.

c. Tuck your chin as shown in figure 3.

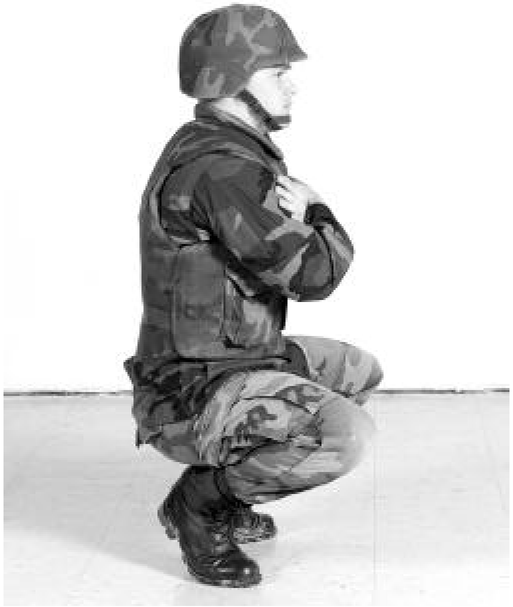


Figure 3

d. Roll backward and slap the deck with your forearms and hands to absorb the impact of the fall and keep your head off the deck.

e. Keep your back rounded when rolling backward to prevent injury.

f. Keep your head off the deck to protect neck and spinal column from injury as shown in figure 4.

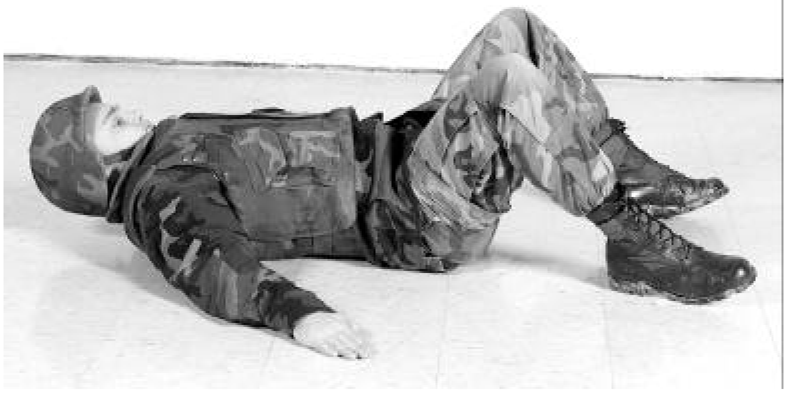


Figure 4

3. Execute a right side break-fall.

a. Stand up, crossing your right leg in front of your left. Shift your body weight to your left leg to maintain your balance.

b. Bring your right arm across your body so your hand is next to your left shoulder with your palm facing inboard as shown in figure 5.

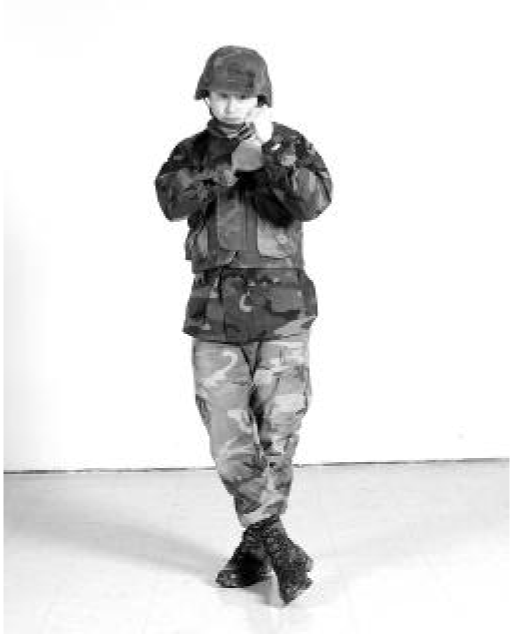


Figure 5

c. Bend your left knee and fall on your right hip, rolling to your side.

d. Break your fall with your right arm slapping the deck, making contact from your shoulder or forearm down to your hand. At the same time, tuck your chin and keep your head raised off the deck. The chin should be tucked to the chest at all times to prevent head and neck injury.

e. To spread and absorb the impact, stretch out your right leg to make contact with the deck. Bend your left leg and make contact on the deck with your boot as shown in figure 6.

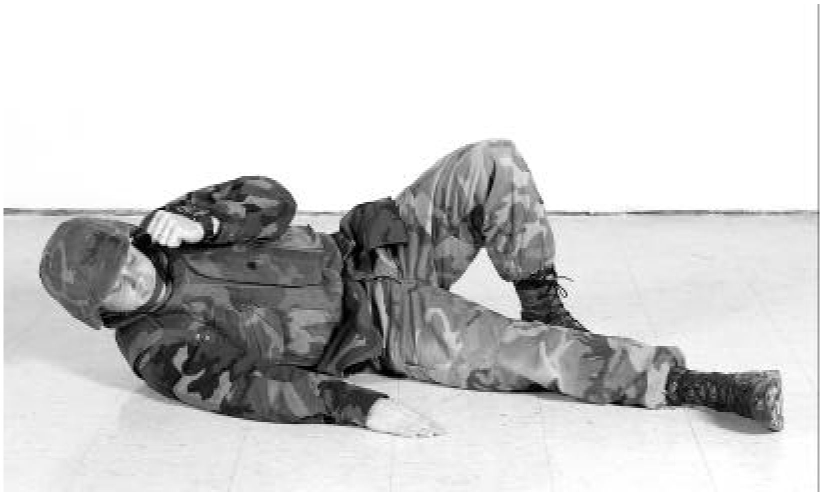


Figure 6

4. Execute a left side break-fall.

a. Stand up, crossing your left leg in front of your right. Shift your body weight to your right leg to maintain your balance.

b. Bring your left arm across your body so your hand is next to your right shoulder with your palm facing inboard as shown in figure 7.

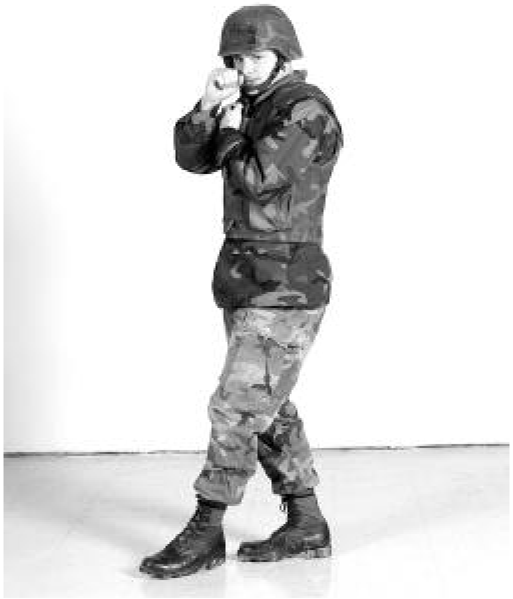


Figure 7

c. Bend your right knee and fall on your left hip, rolling to your side.

d. Break your fall with your left arm, slapping the deck, making contact from your shoulder or forearm down to your hand. At the same time, tuck your chin and keep your head raised off the deck. The chin should be tucked to the chest at all times to prevent head and neck injury.

e. To spread and absorb the impact, stretch out your right leg to make contact with the deck. Bend your left leg and make contact on the deck with your boot as shown in figure 8.

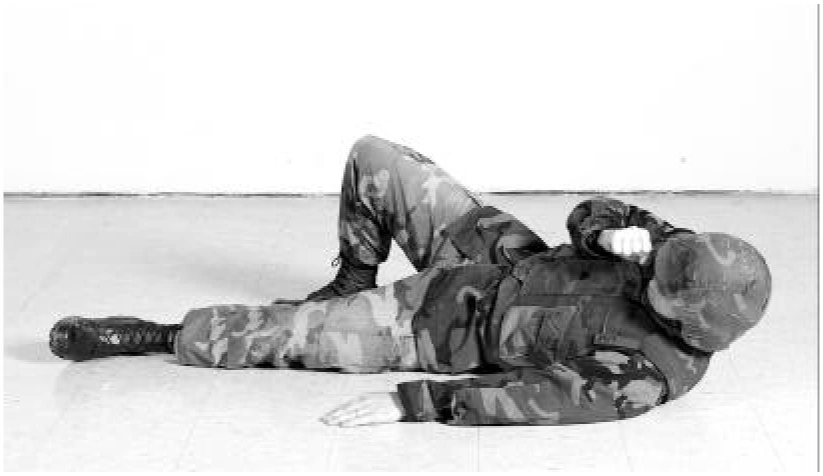


Figure 8

5. Execute a forward shoulder roll.

a. Step forward with your right foot, distributing your body weight evenly on both legs.

b. Bend down and make contact with the deck with the back of your right forearm and upper arm as shown in figure 9.

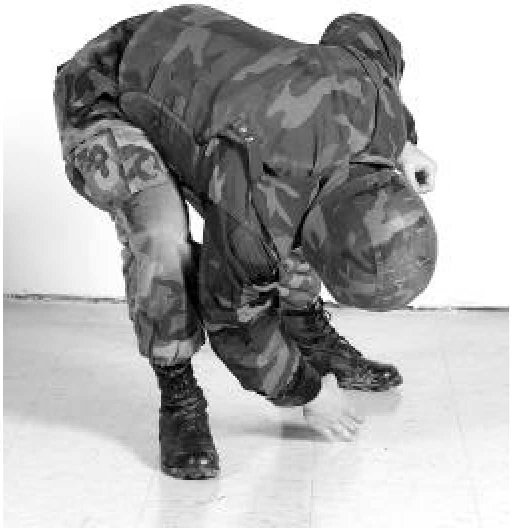


Figure 9

c. Tuck your chin into your chest.

d. Roll onto your right shoulder, rolling diagonally across your back to land on your left hip.

e. Slap the deck with your left arm, absorbing the impact from the shoulder to the hand, palm down.

f. With your left leg straight, slap the deck to absorb as much of the impact as possible. Your right leg is bent and the foot hits flat on the deck as shown in figure 10.

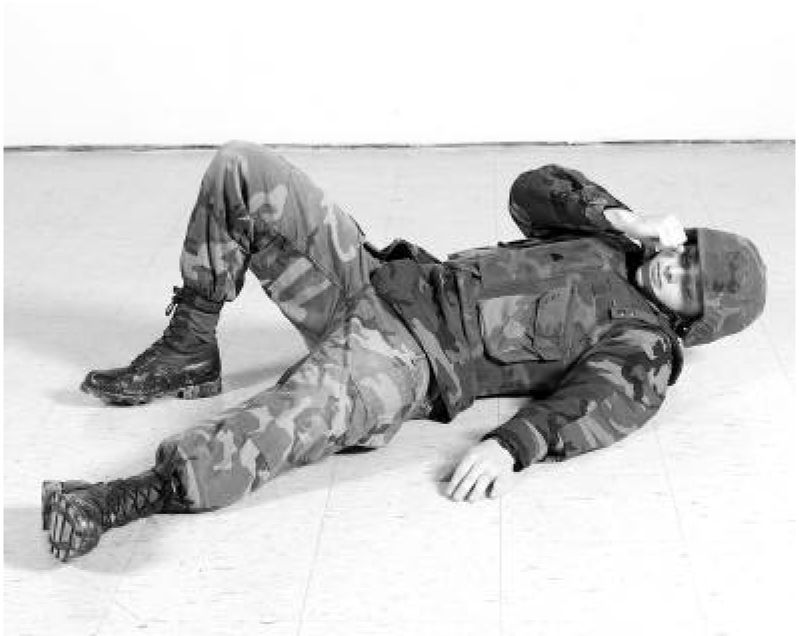


Figure 10

REFERENCE(S):

MCO 1500.54, *Marine Corps Martial Arts Training Program (MCMATP)*
MCRP 3-02B, *Close Combat*

ADMINISTRATIVE INSTRUCTIONS:

This task requires a soft surface.
Medical support must be available in training area when performing this task.
Ensure all safety precautions are adhered to when performing this task.

TASK: **MCCS.23.04 (CORE) EXECUTE BAYONET TECHNIQUES**

CONDITION: **GIVEN THE REQUIREMENT, A SERVICE RIFLE WITH A SHEATHED BAYONET, FLAK JACKET, GROIN PROTECTION, HELMET, AND WITHOUT THE AID OF THE REFERENCES.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given the requirement, a service rifle with a sheathed bayonet, flak jacket, groin protection, helmet, and without the aid of the references.

Standard: The Marine must execute bayonet techniques while adhering to all safety precautions in accordance with the references.

PERFORMANCE STEPS:

1. *Execute a straight thrust*.

a. Lift your left leg and lunge forward, pushing off the ball of your right foot.

b. Holding the pistol grip, thrust the blade end of the weapon directly toward the target by thrusting both hands forward in a linear line as shown in figure 1. Generate power by driving your hips forward in a linear motion toward the target.

c. Retract the weapon and return to the basic warrior stance.

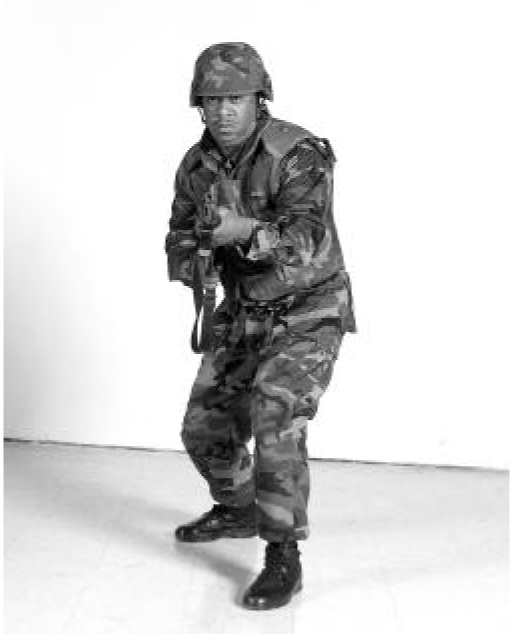


Figure 1

2. *Execute a horizontal buttstroke.*

a. Step forward with your right foot, driving the right hand forward across the body.

b. Contact is made on the opponent with the butt of the weapon.

c. Follow-through the target area with the right hand and the butt of the weapon as shown in figure 2.

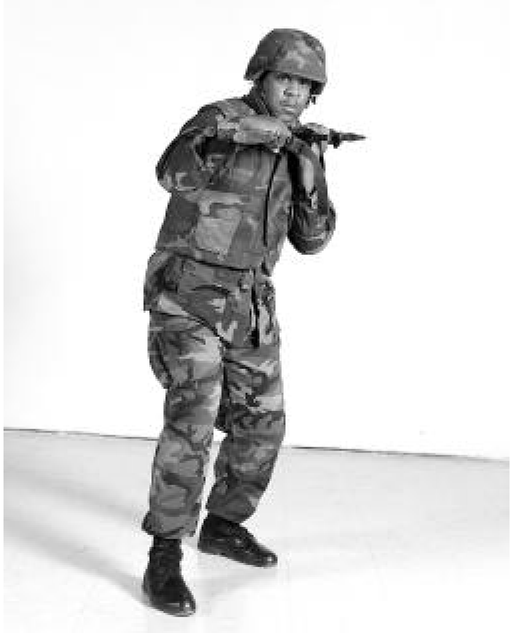


Figure 2

3. Execute a vertical buttstroke.

a. Step forward with the right foot and drive the right hand straight up.

b. At the same time, pull the left hand back over the left shoulder.

c. Contact is made on the opponent with the butt of the weapon.

d. Follow-through the target area with the right hand and the butt of the weapon as shown in figure 3.

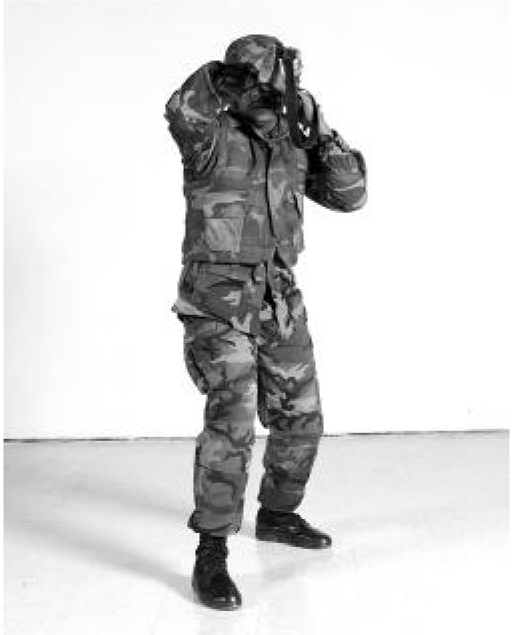


Figure 3

4. Execute a smash.

a. Begin with your right leg forward and blade end of the weapon over your left shoulder. Elevate your right elbow above your shoulders. Generate additional power by extending the left arm further back over the shoulder before executing the smash.

b. Drive your arms forward, striking the opponent with the butt of weapon as shown in figure 4.

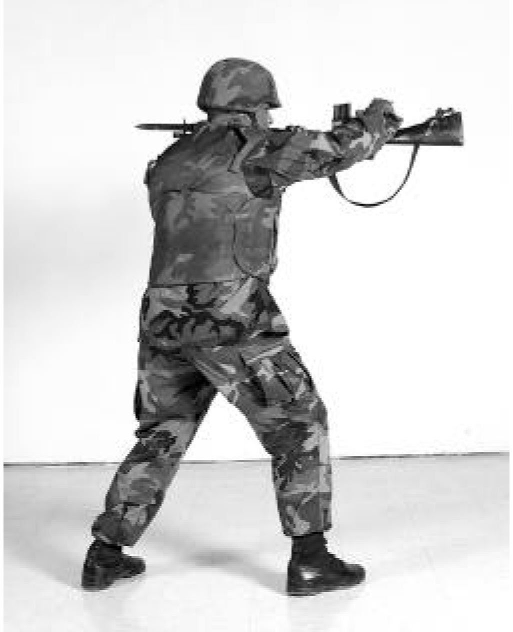


Figure 4

5. Execute a slash.

a. Pull the left hand back toward the left shoulder as shown in figure 5.

b. Thrust the left hand forward and swing it to the right while bringing the right hand back toward the hip.

c. Turn the cutting edge of the blade toward the opponent's neck in a slashing motion, cutting across the opponent's neck.

d. Do not over extend your attack as this exposes you and will make you vulnerable to an attack.

e. Follow-through the target area with the left hand and the blade of the weapon as shown in figure 6.

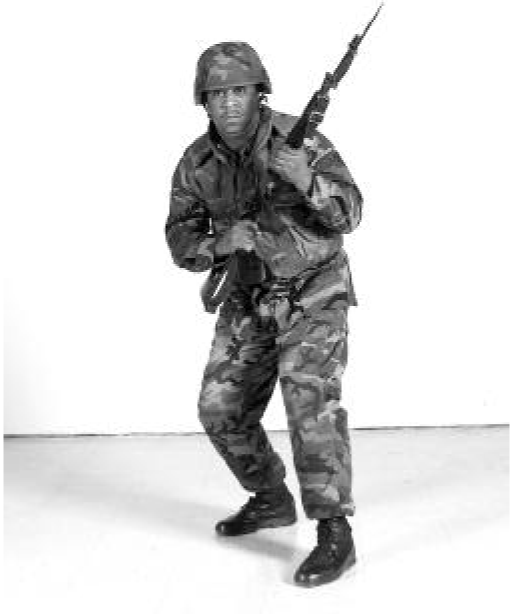


Figure 5

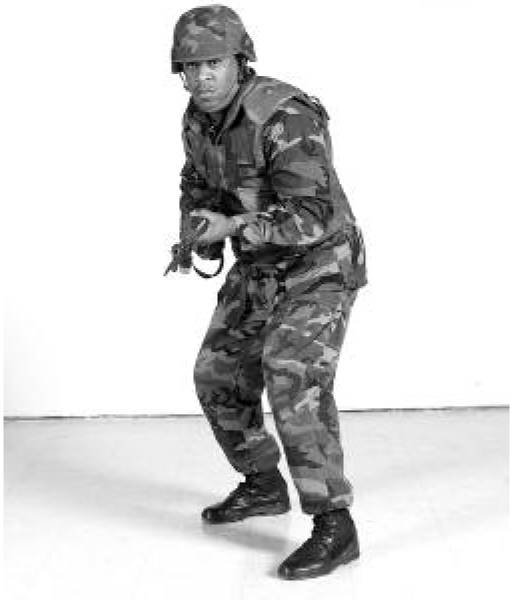


Figure 6

6. Execute movement, approach and close.

a. Assume the modified basic warrior stance.

b. Move in a straight line while scanning the area from right to left and left to right by turning your torso. Keep the bayonet oriented in the direction of vision as shown in figure 7.

c. To change the direction of movement, you will pivot off the ball of your opposite foot in the direction you intend to move and step with the same side foot into the new direction of movement.

d. Make sure the rifle remains locked into position with the bayonet oriented in the direction of movement.

(1) Approaching. Approaching is used when you have located an opponent and are within 20 to 25 yards from the opponent. Make sure the bayonet stays locked on the opponent.

(2) Closing. Closing is done when you are actively engaged with an opponent at approximately 5 to 10 feet. Closing is done to gain the psychological and tactical advantage over the opponent. As you reach the critical distance of 5 to 10 feet, you will use a burst of speed to close the final distance between you and the opponent using your legs to absorb the impact of your steps.

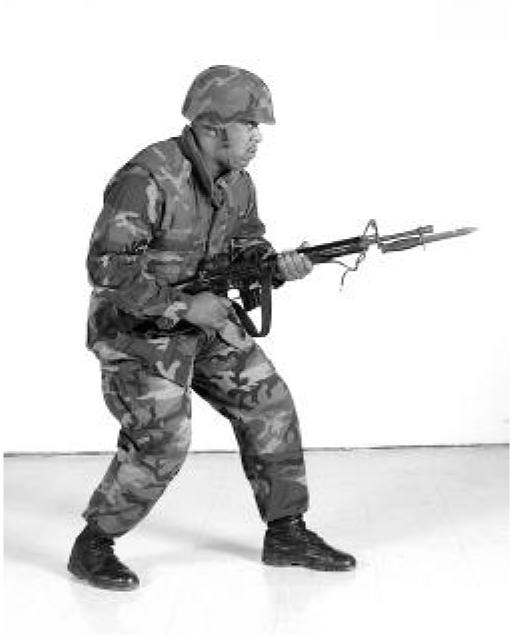


Figure 7

REFERENCE(S):

MCO 1500.54, *Marine Corps Martial Arts Training Program (MCMATP)*
MCRP 3-02B, *Close Combat*

ADMINISTRATIVE INSTRUCTIONS:

Medical support must be available in training area when performing this task.
Ensure all safety precautions are adhered to when performing this task.

TASK: **MCCS.23.05 (CORE) EXECUTE PUGIL STICK BOUT**

CONDITION: **GIVEN THE REQUIREMENT, A PUGIL STICK, FLAK JACKET, GROIN PROTECTION, HELMET WITH FACE GUARD, MOUTHPIECE, NECK ROLL, AN OPPONENT, AND WITHOUT THE AID OF THE REFERENCES.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given the requirement, a pugil stick, flak jacket, groin protection, helmet with face guard, mouthpiece, neck roll, an opponent, and without the aid of the references.

Standard: The Marine must execute pugil stick bout while adhering to all safety precautions in accordance with the references.

Administrative Note: This task requires a soft surface, the presence of medical personnel, and the adherence to all safety precautions.

PERFORMANCE STEPS:

NOTE: The following steps and figures describing the execution of this task are explained and depicted using the M16A2 rifle with bayonet, not a pugil stick, to emphasize the fact that a pugil stick bout, though an effective training tool, is a simulation of an actual hand to hand combat situation in which a Marine would be fighting with his rifle and bayonet.

1. *Execute a thrust.*

a. Lift your left leg and lunge forward, pushing off the ball of your right foot.

b. Holding the pistol grip, at the same time, thrust the blade end of the weapon directly toward the target by thrusting both hands forward in a linear line as shown in figure 1. Generate power by driving your hips forward in a linear motion toward the target.

c. Retract the weapon and return to the basic warrior stance.

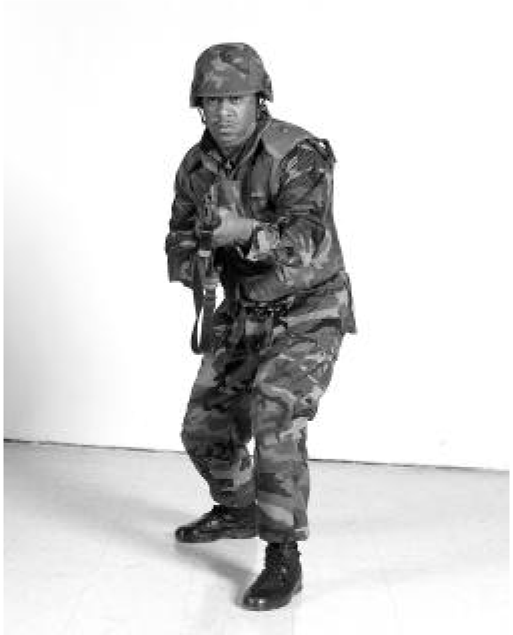


Figure 1

2. Execute buttstrokes.

a. For a horizontal buttstroke, step forward with your right foot, driving the right hand forward across the body as shown in figure 2.

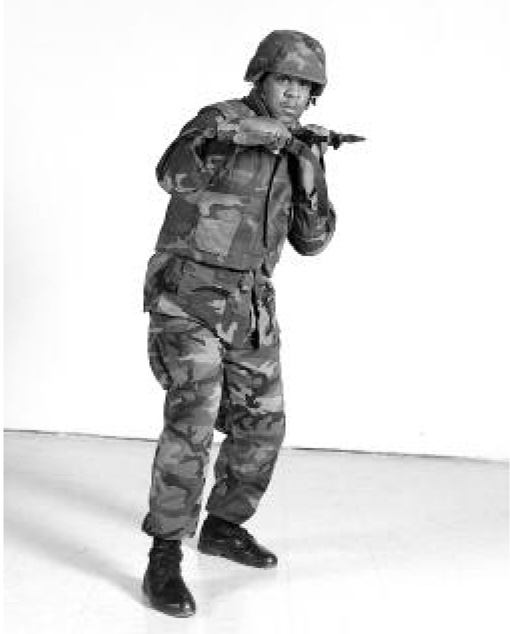


Figure 2

b. Contact is made on the opponent with the butt of the weapon.

c. Follow through the target area with the right hand and the butt of the weapon.

d. For a vertical buttstroke, step forward with the right foot and drive the right hand straight up as shown in figure 3.

e. At the same time, pull the left hand back over the left shoulder.

f. Contact is made on the opponent with the butt of the weapon.

g. Follow through the target area with the right hand and the butt of the weapon.

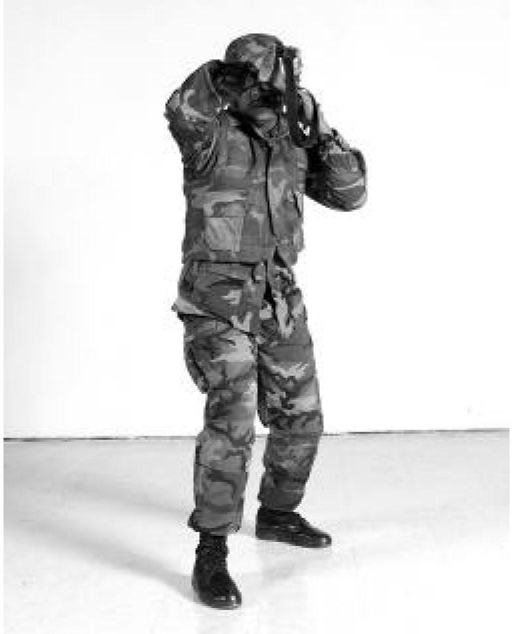


Figure 3

3. Execute a smash.

a. Begin with your right leg forward and blade end of the weapon over your left shoulder. Then elevate your right elbow above your shoulders as shown in figure 4. Generate additional power by extending the left arm further back over the shoulder before executing the smash.

b. Drive your arms forward, striking the opponent with the butt of the weapon.

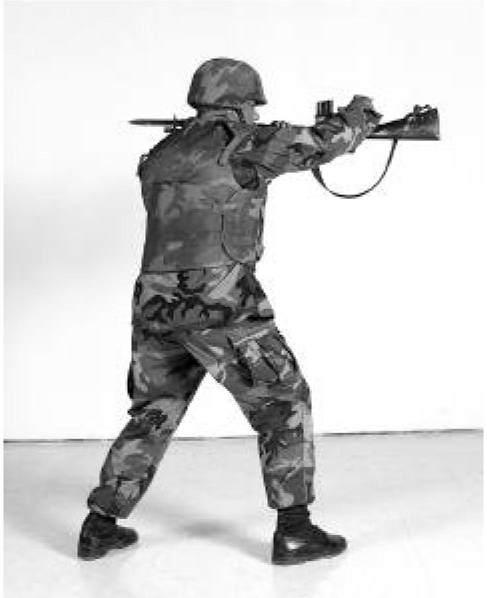


Figure 4

4. Execute a slash.

a. Pull the left hand back toward the left shoulder as shown in figure 5.

b. Thrust the left hand forward and swing it to the right while bringing the right hand back toward the hip.

c. Turn the cutting edge of the blade toward the opponent’s neck in a slashing motion, cutting across the opponent’s neck.

d. Do not over extend your attack as this exposes you and makes you vulnerable to an attack from your enemy.

e. Follow through the target area with the left hand and the blade of the weapon.

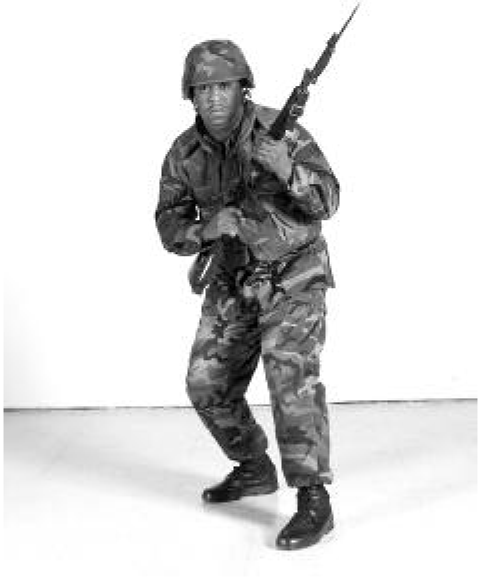


Figure 5

5. Execute a parry.

a. Use the bayonet end of the rifle to redirect the barrel or bayonet of the opponent's weapon as shown in figure 6.

b. Lock the stock of your weapon against your hip with your right forearm.

c. Rotate to the left or right, moving the bayonet end of your rifle to parry the opponent's attack. Rotation is generated from the hips.

d. Redirect or guide the opponent's weapon away from the body by exerting pressure against the opponent's weapon.

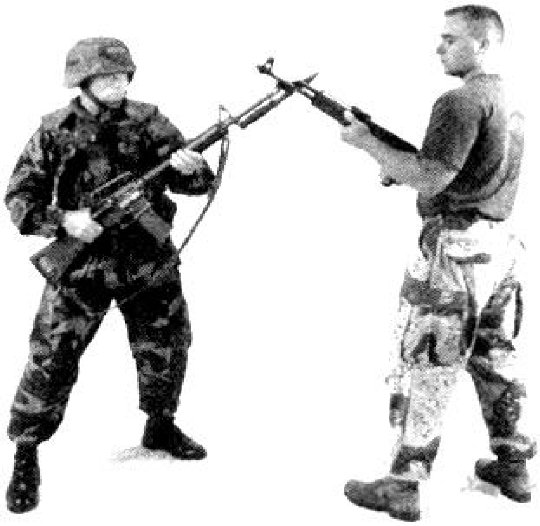


Figure 6

6. Execute blocks.

a. To execute a high block against a vertical attack coming from high to low, thrust your arms up forcefully at approximately a 45-degree angle from the body as shown in figure 7.

b. The weapon should be over the top of the head and parallel to the deck.

c. The elbows are bent, but there is enough muscular tension in the arms to absorb the impact and deter the attack.

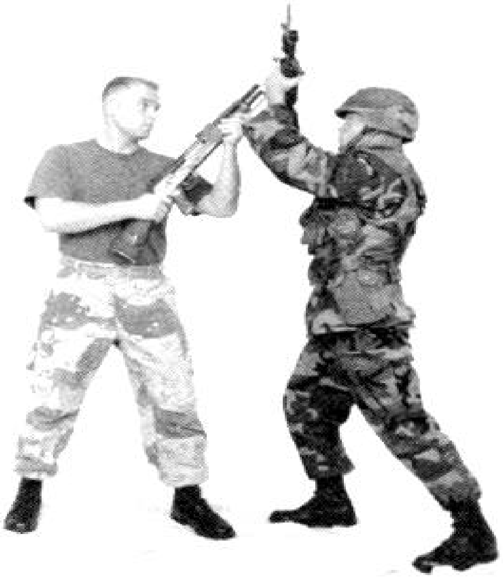


Figure 7

d. To execute a low block against a vertical attack coming from low to high, thrust your arms down forcefully at approximately a 45-degree angle from the body as shown in figure 8.

e. The weapon should be at or below the waist and parallel to the deck.

f. The elbows are bent but there is enough muscular tension in the arms to absorb the impact and deter the attack.

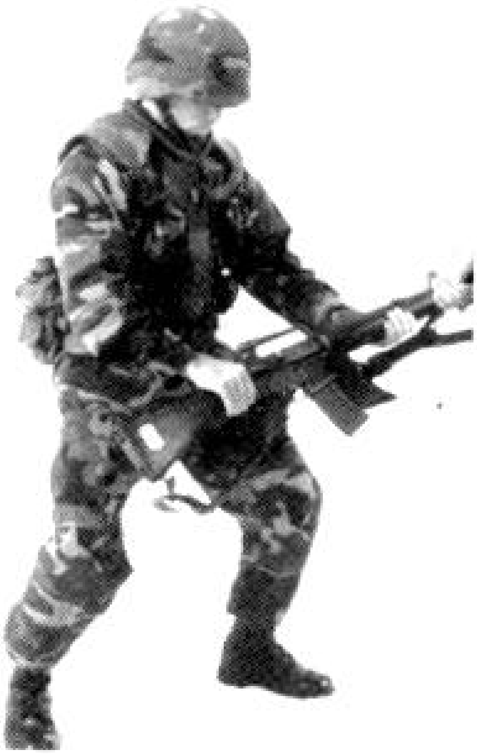


Figure 8

g. To execute a left or right block against a horizontal buttstroke or a slash, thrust your arms forcefully to the right or left, holding the rifle vertically in the direction of the attack as shown in figure 9.

h. The elbows are bent, but there is enough tension in the arms to absorb the impact and deter the attack.

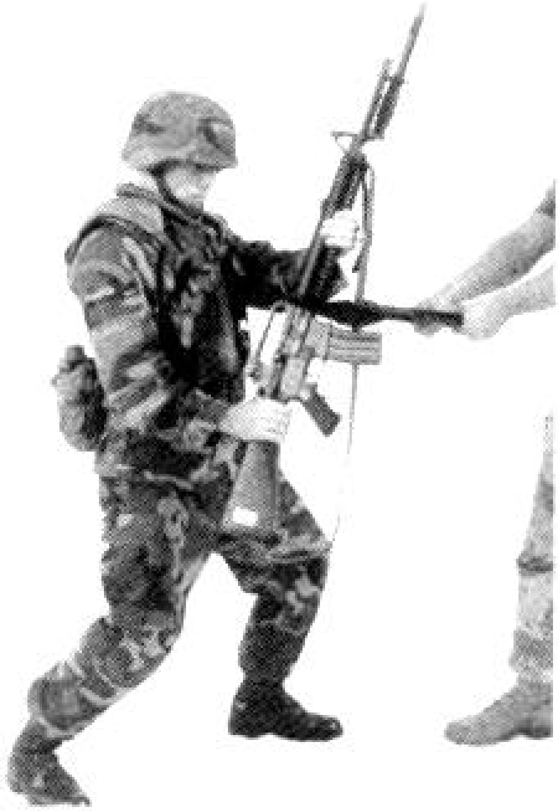


Figure 9

i. After deflecting an opponent's attack with a block, counter his or her attack with a slash or horizontal buttstroke to regain the initiative.

REFERENCE(S):

MCO 1500.54, *Marine Corps Martial Arts Training Program (MCMATP)*
MCRP 3-02B, *Close Combat*

ADMINISTRATIVE INSTRUCTIONS:

Medical personnel must be available in training area when performing this task.
Ensure all safety precautions are adhered to when performing this task.

TASK: **MCCS.23.06 (CORE) EXECUTE UPPER BODY STRIKES**

CONDITION: **GIVEN THE REQUIREMENT, A STRIKING PAD, AND WITHOUT THE AID OF THE REFERENCES.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition:	Given the requirement, a striking pad, and without the aid of the references.
Standard:	The Marine must execute upper body strikes while adhering to all safety precautions in accordance with the references.

PERFORMANCE STEPS:

1. *Execute a horizontal hammer fist strike.*

a. Making a fist, retract your right hand so your fist is next to your face and neck. Bend your arm 45 to 90 degrees. Rotate your right hip and right shoulder backwards as shown in figure 1.

b. Thrust your fist forward and horizontally into the opponent while rotating your right hip and shoulder forward.

c. Rotate your wrist so the hammer fist makes contact on the opponent as shown in figure 2.

d. Contact is made with the meaty portion of your hand below the little finger.

e. Follow through the target area with your fist.

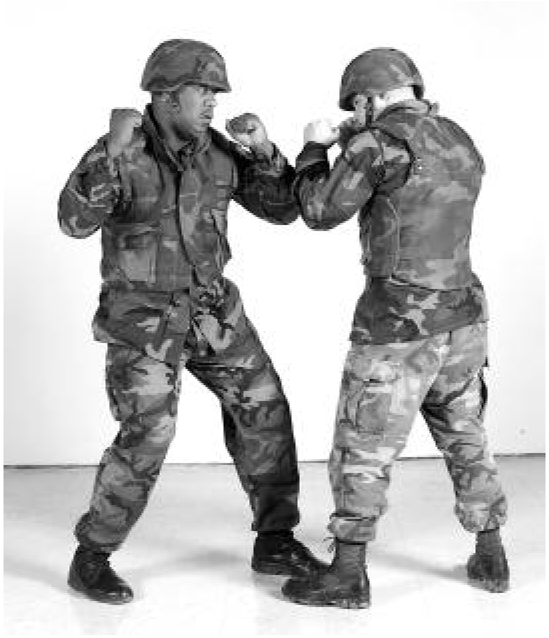


Figure 1

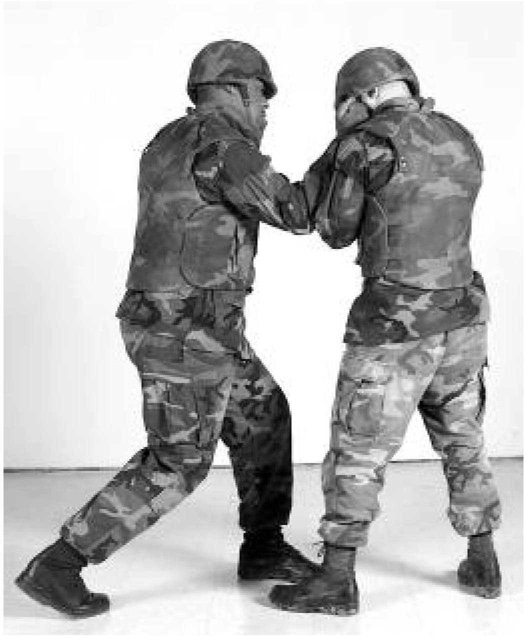


Figure 2

2. Execute a vertical hammer fist strike.

a. Making a fist, retract your right hand so your fist is next to your face and neck. Bend your arm 45 to 90 degrees. Rotate your right hip and right shoulder backwards as shown in figure 3.

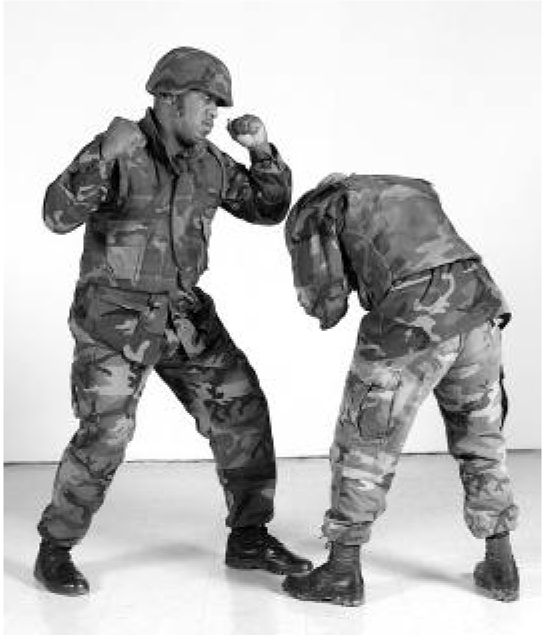


Figure 3

b. Thrust your fist forward and vertically from high to low onto the opponent while rotating your right hip and shoulder forward and dropping your weight downward.

c. Rotate your wrist so the hammer fist makes contact on the opponent as shown in figure 4.

d. Contact is made with the meaty portion of your hand below the little finger.

e. Follow through the target area with your fist.

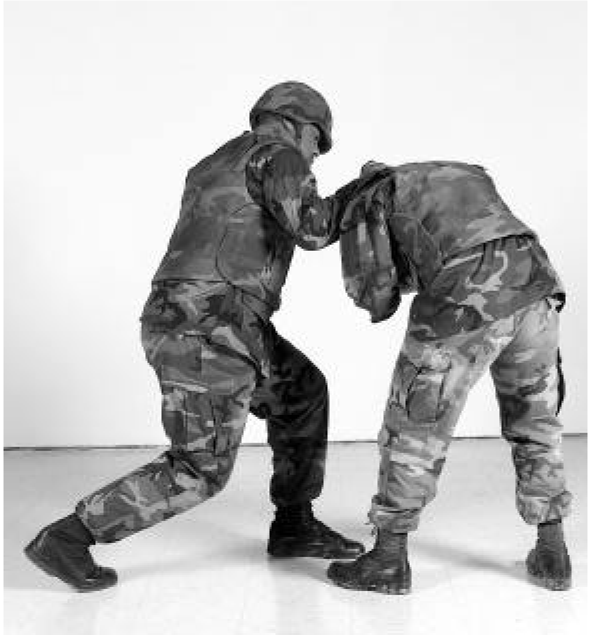


Figure 4

3. Execute a forward elbow strike.

a. Tuck your fist near your chest with the palm heel facing the deck as shown in figure 5.

b. Thrust your elbow forward horizontally toward the opponent with your forearm parallel to the deck.

c. Keep your fist tucked near your chest with the palm heel facing the deck and your elbow bent throughout the movement.

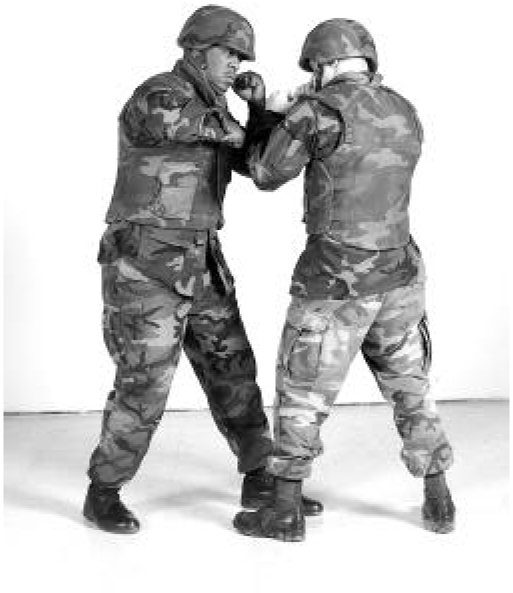


Figure 5

d. Make contact with your forearm 2 inches below the point of the elbow as shown in figure 6.

e. Follow through with the strike through the target area.

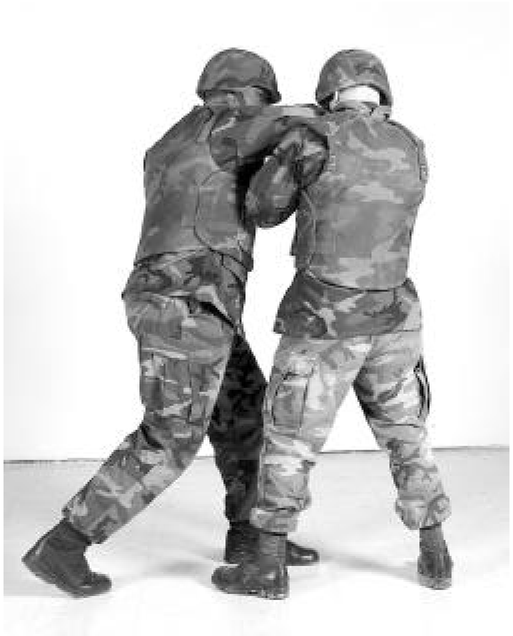


Figure 6

4. Execute an elbow strike from low to high.

a. Bend your right elbow, keeping your fist close to your body. Your fist is on your shoulder and your elbow is raised well above your shoulder as shown in figure 7.

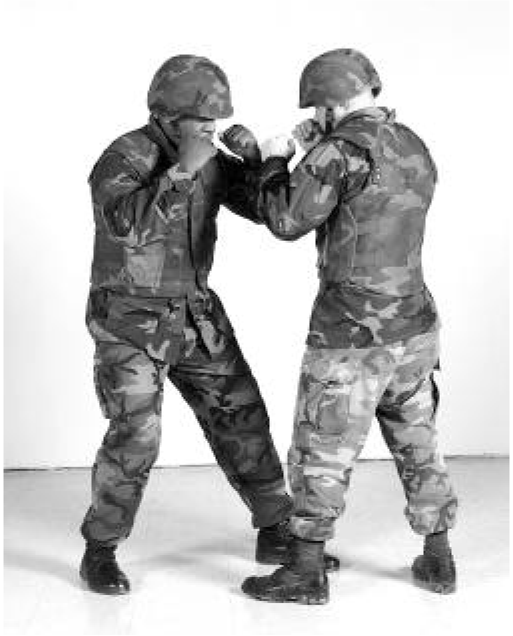


Figure 7

b. Thrust your elbow vertically downward toward the opponent as shown in figure 8.

c. Follow through with the strike through the target area.

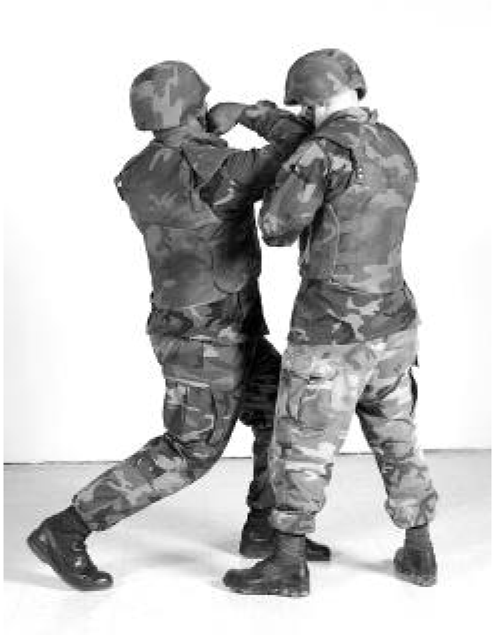


Figure 8

5. *Execute an eye gouge.*

a. Extend your hand with fingers slightly spread apart to allow entry into the eye sockets.

b. With the palm of your hand either toward the deck or toward the sky, thrust your right hand forward into the opponent's eyes as shown in figure 9.

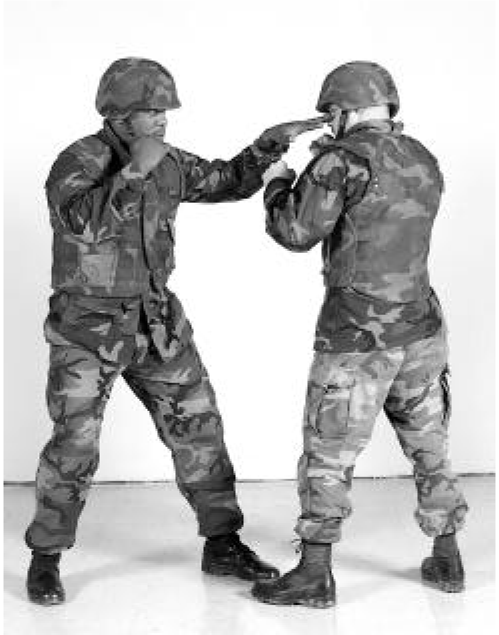


Figure 9

REFERENCE(S):

MCO 1500.54, *Marine Corps Martial Arts Training Program (MCMATP)*
MCRP 3-02B, *Close Combat*

ADMINISTRATIVE INSTRUCTIONS:

Medical support must be available in training area when performing this task.
Ensure all safety precautions are adhered to when performing this task.

TASK: **MCCS.23.07 (CORE) EXECUTE LOWER BODY STRIKES**

CONDITION: **GIVEN THE REQUIREMENT, A STRIKING PAD, AND WITHOUT THE AID OF THE REFERENCES.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given the requirement, a striking pad, and without the aid of the references.

Standard: The Marine must execute lower body strikes while adhering to all safety precautions in accordance with the references.

PERFORMANCE STEPS:

1. *Execute a vertical knee strike.*

a. Grab the opponent's shoulders with your hands as shown in figure 1.

b. Raise your right knee and drive it up forcefully into the opponent. Generate power by thrusting the leg upward.

c. Make contact on the opponent 2 inches above your right knee as shown in figure 2.

d. Follow through the target area with your knee.

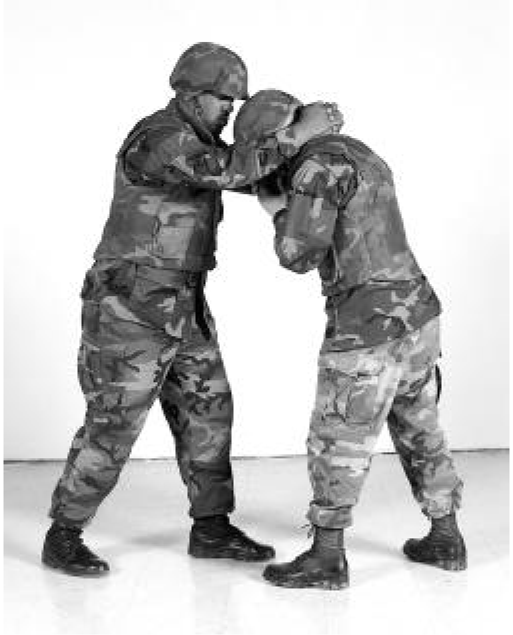


Figure 1

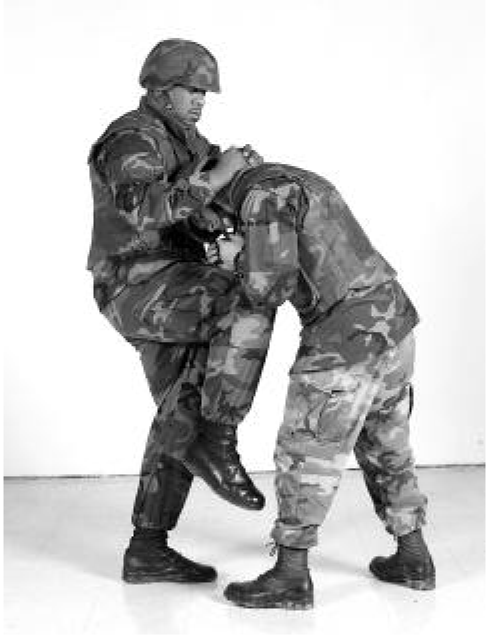


Figure 2

2. Execute a front kick.

a. Raise your right knee waist high as shown in figure 3, and pivot your hips into the attack thrust while moving your right foot forward toward the opponent.

b. Make contact on the opponent with the toe of your right boot or bootlaces as shown in figure 4.

c. Follow through target area with your foot and leg.

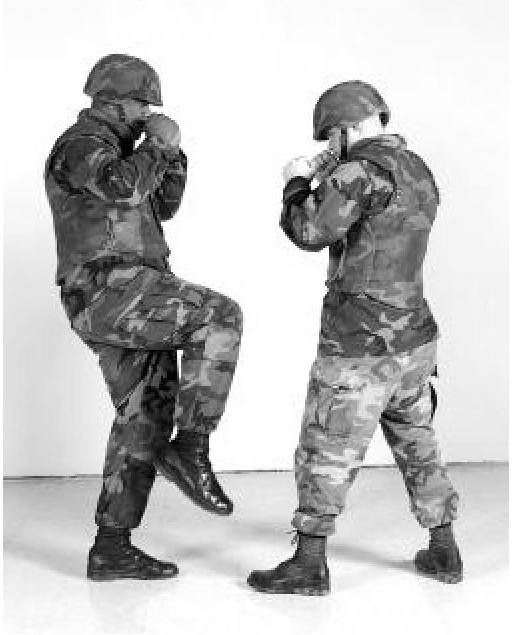


Figure 3

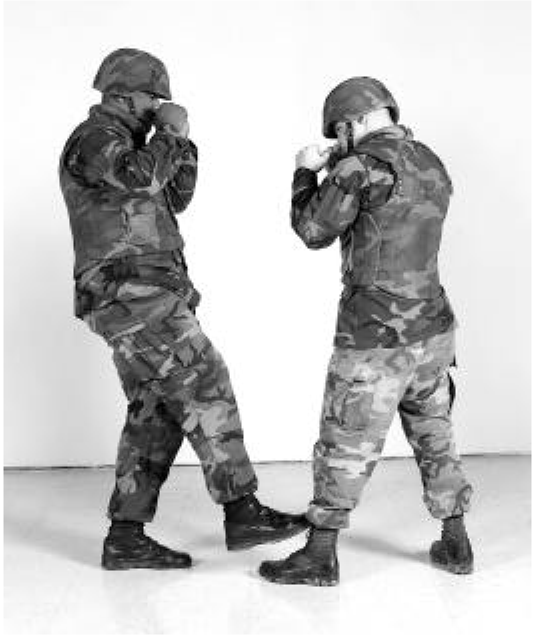


Figure 4

3. Execute a vertical stomp.

a. Raise the knee and straighten your leg slightly above waist level as shown in figure 5. Shift your body weight to your opposite leg to maintain your balance.

b. Forcefully drive the sole of your boot or cutting edge of your heel into the opponent as shown in figure 6.

c. Bend your opposite knee slightly to drop your body weight into the strike.

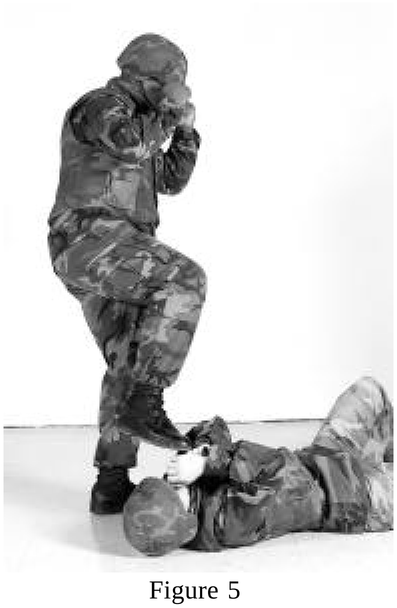


Figure 5

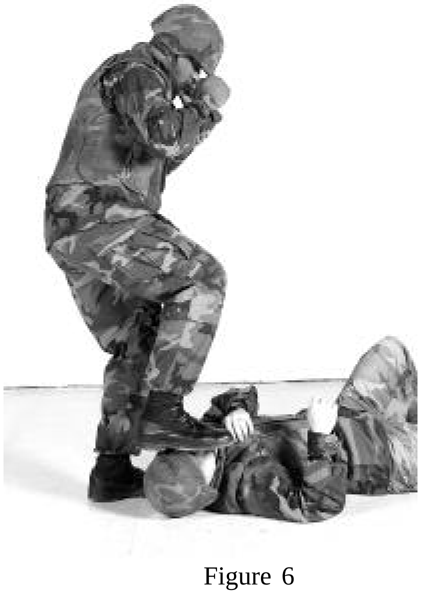


Figure 6

4. Execute a round kick.

a. Raise your rear leg slightly off the deck, making sure your knee is slightly bent while pivoting your hips and shoulders into the attack as shown in figure 7.

b. Thrust your rear leg forward in an arcing motion towards your opponent, ensuring the foot of the lead leg is pointed 45 degrees to the outside of the opponent. The striking surface should be the shin just above the ankle or the top of the foot as shown in figure 8.

(1) You may have to shift your body weight to your left leg to maintain your balance. Make sure that the foot of the lead leg is pointing 45 degrees to the outside.

(2) With your lead leg slightly bent, extend your rear leg towards your opponent in an arcing motion. Thrust your rear hip and shoulder forward to generate additional power.

c. Make contact on the opponent with the shin of the rear leg or the top of the foot.

d. Follow through the target area.

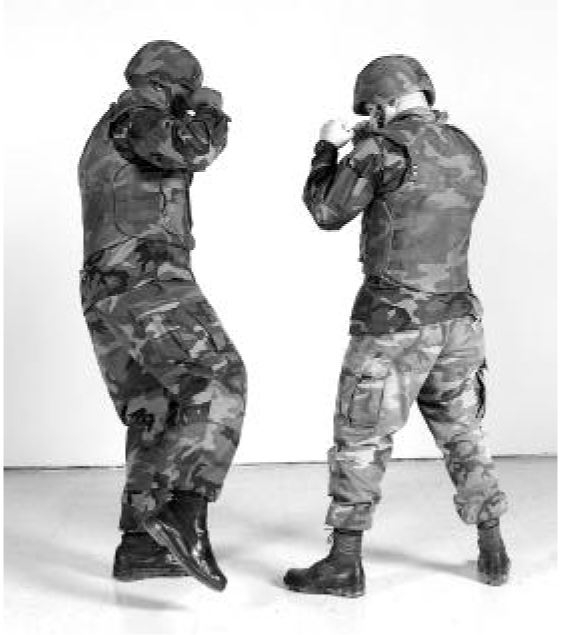


Figure 7

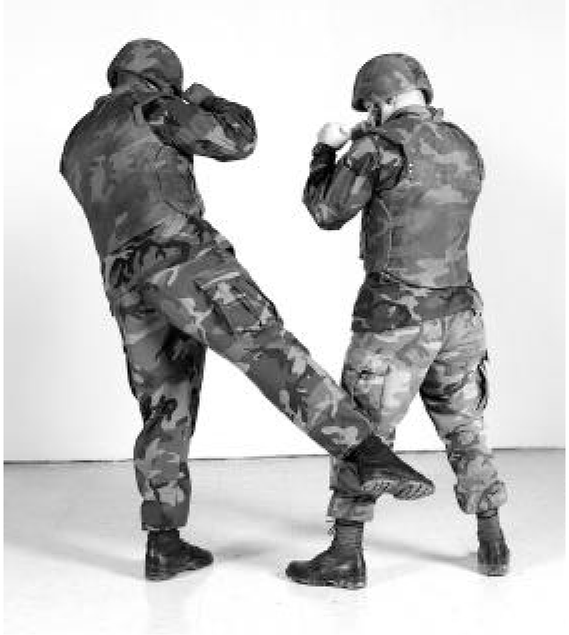


Figure 8

REFERENCE(S):

MCO 1500.54, *Marine Corps Martial Arts Training Program (MCMATP)*
MCRP 3-02B, *Close Combat*

ADMINISTRATIVE INSTRUCTIONS:

This task requires a soft surface.
Medical support must be available in training area when performing this task.
Ensure all safety precautions are adhered to when performing this task.

TASK: **MCCS.23.08 (CORE) EXECUTE CHOKES**

CONDITION: **GIVEN THE REQUIREMENT, AN OPPONENT, AND WITHOUT THE AID OF THE REFERENCES.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given the requirement, an opponent, and without the aid of the references.

Standard: The Marine must execute chokes while adhering to all safety precautions in accordance with the references.

PERFORMANCE STEPS:

1. *Execute a rear choke.*

a. Begin by standing behind the opponent. With your right arm, reach over opponent's right shoulder and hook his or her chin, face, or neck with your hand, wrist, or forearm as shown in figure 1.

b. As the opponent is brought down, pull back on opponent’s chin and slide your right forearm around his or her neck, hooking the bend of your arm around opponents neck as shown in figure 2.

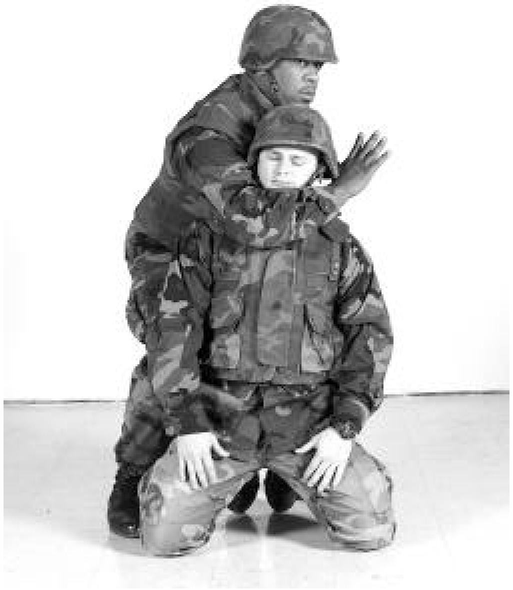


Figure 1

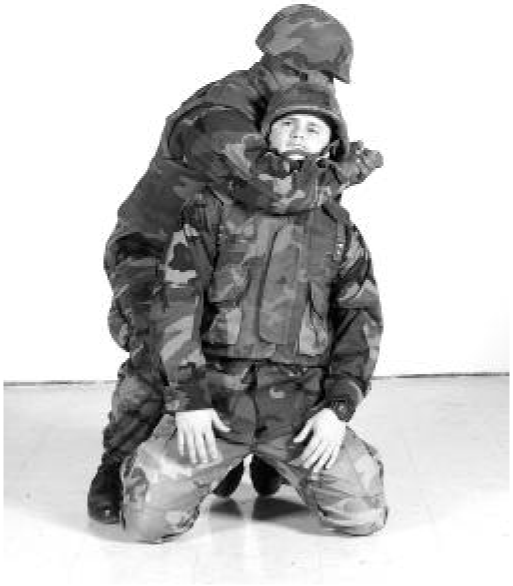


Figure 2

2. Execute a figure 4 variation.

a. Apply a rear choke. Your body should be against the opponent's body.

b. Grasp your left biceps with your right hand as shown in figure 3 and place your left hand against the back of the opponent's head.

c. With your left hand, push the opponent's head forward and down.

d. Draw your right arm in, maintaining pressure with your biceps and forearm on both sides of the opponent's neck as shown in figure 4.

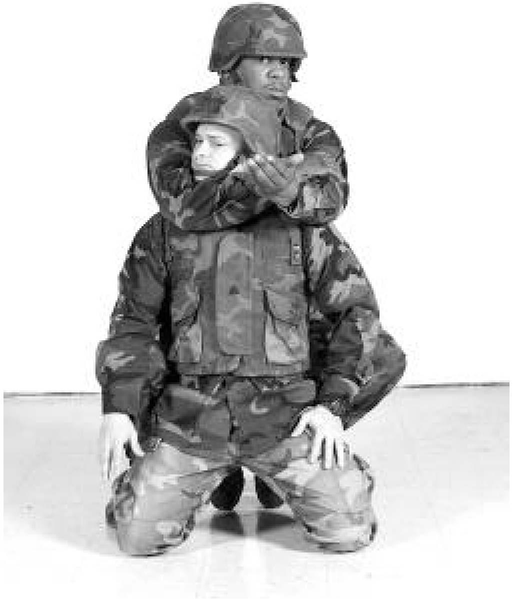


Figure 3

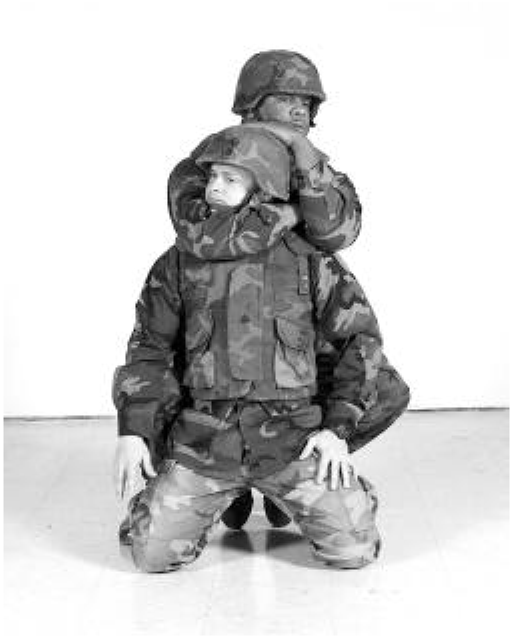


Figure 4

REFERENCE(S):

MCO 1500.54, *Marine Corps Martial Arts Training Program (MCMATP)*
MCRP 3-02B, *Close Combat*

ADMINISTRATIVE INSTRUCTIONS:

Medical support must be available in training area when performing this task.
Ensure all safety precautions are adhered to when performing this task.

TASK: **MCCS.23.09 (CORE) EXECUTE THROWS**

CONDITION: **GIVEN THE REQUIREMENT, AN OPPONENT, MOUTHPIECE, AND WITHOUT THE AID OF REFERENCES.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given the requirement, an opponent, mouthpiece, and without the aid of the references.

Standard: The Marine must execute throws while adhering to all safety precautions in accordance with the references.

PERFORMANCE STEPS:

1. *Execute a leg sweep.*

a. Stand facing your opponent.

b. With your left hand, grasp opponent's right wrist and with your right hand, grab his or her left shoulder as shown in figure 1. Grab opponent's clothing or gear if you cannot grab his or her wrist and shoulder.

c. Step forward with your left foot on the outside of the opponent's right foot.

d. At the same time off-balance the opponent by pulling the opponent’s wrist downward close to your body and pushing his or her shoulder backwards as shown in figure 2.

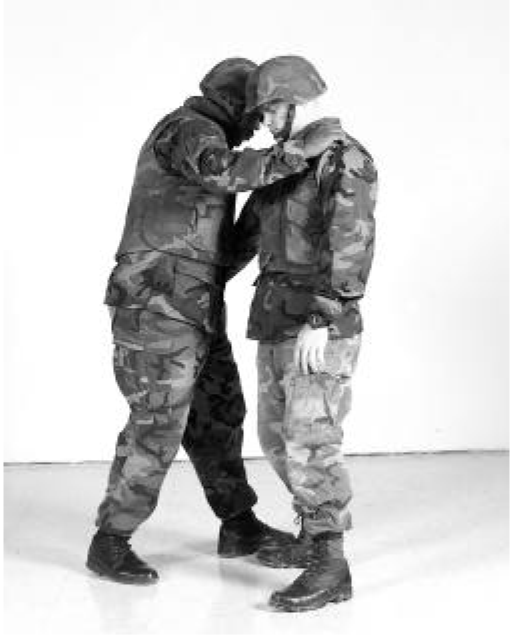


Figure 1

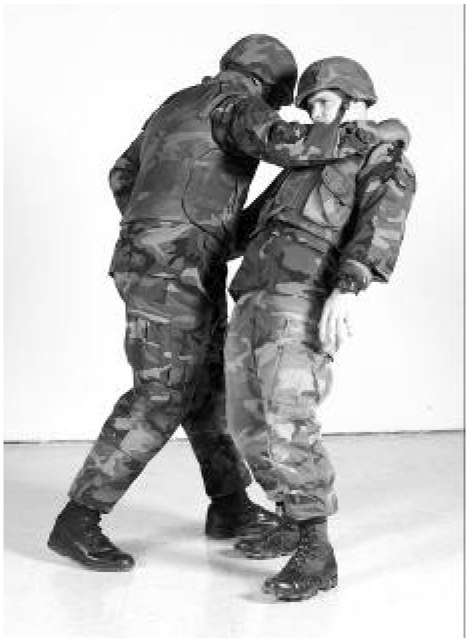


Figure 2

e. At the same time, raise your right knee (no higher than waist high) and kick your foot past the opponent's right leg and stop as shown in figure 3.

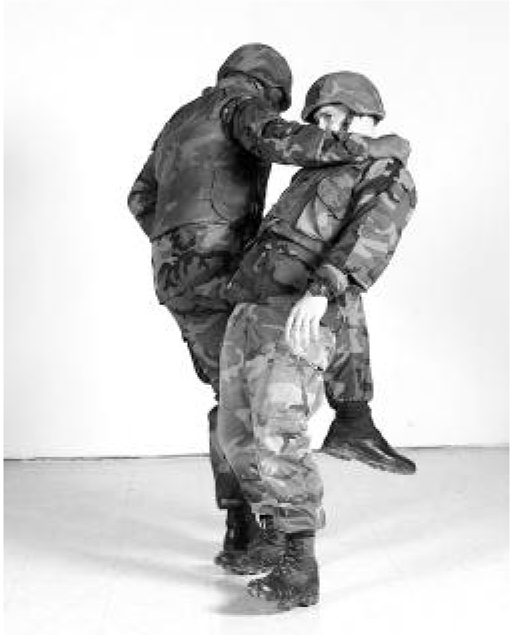


Figure 3

f. Drive your leg forward, then swing your leg backward, sweeping the opponent's leg out from under him or her as shown in figure 4. The leg should be bent at the knee when it is driven forward.

g. Pull the opponent's wrist downward while pushing his or her shoulder backward.

h. Bending at the waist, continue to drive your heel through the opponent's leg as you force him or her down to the deck as shown in figure 5. Release your grip on the opponent's shoulder to maintain your balance.

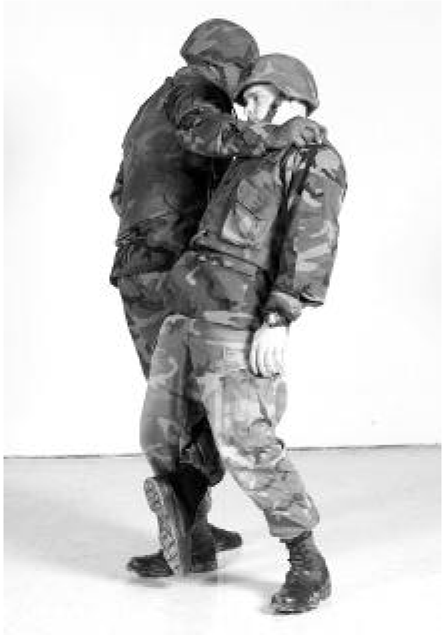


Figure 4

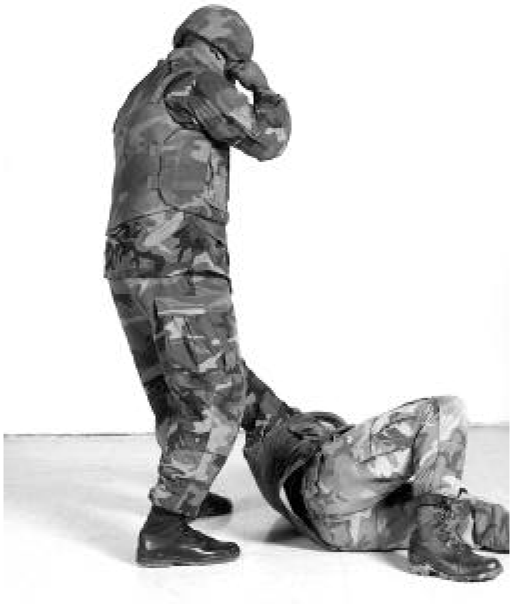


Figure 5

2. Execute a turning throw.

a. Stand facing your opponent.

b. With your left hand, grasp the opponent's right wrist as shown in figure 6.

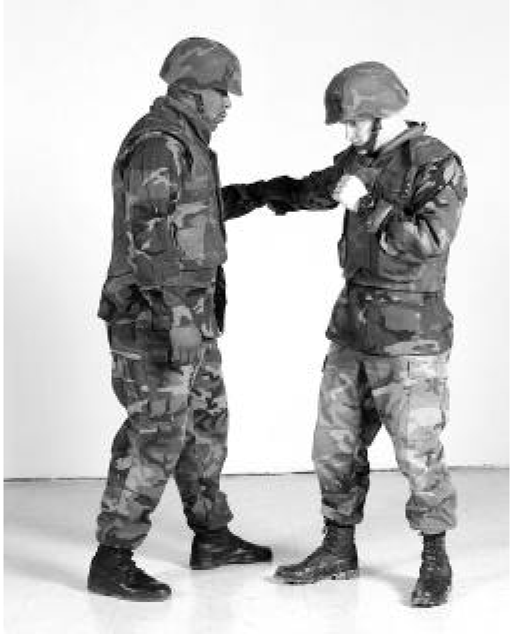


Figure 6

c. Step forward with your right foot on the outside of the opponent's right foot, pivoting so the back of your heel is next to the middle of the opponent's foot.

d. Hook the opponent's right arm with your right arm, pinching his or her arm between your biceps and forearm as shown in figure 7.

e. Pull the opponent's wrist downward, keeping it close to your body.

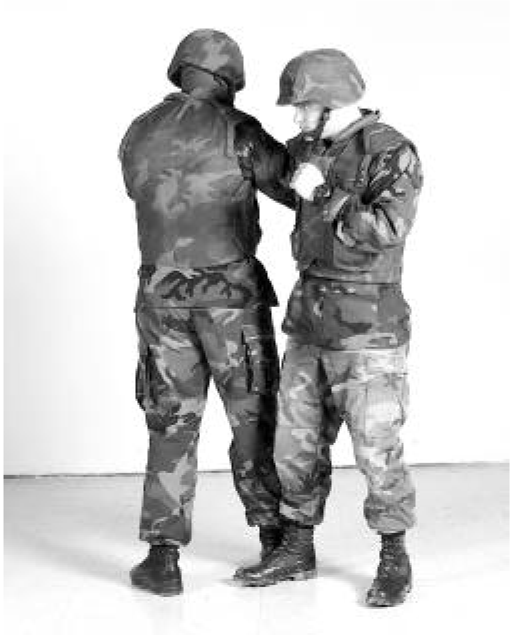


Figure 7

f. Pivot to your left on the balls of your feet and continue pulling downward on the opponent's wrist while rotating it outboard, just enough to off-balance him or her as shown in figure 8.

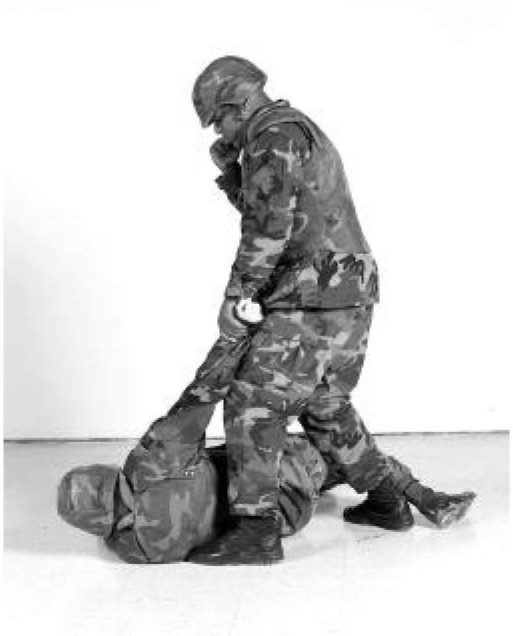


Figure 8

REFERENCE(S):

MCO 1500.54, *Marine Corps Martial Arts Training Program (MCMATP)*
MCRP 3-02B, *Close Combat*

ADMINISTRATIVE INSTRUCTIONS:

This task requires a soft surface.
Medical support must be available in training area when performing this task.
Ensure all safety precautions are adhered to when performing this task.

TASK: **MCCS.23.10 (CORE) EXECUTE COUNTERS TO STRIKES**

CONDITION: **GIVEN THE REQUIREMENT, AN OPPONENT, MOUTHPIECE, AND WITHOUT THE AID OF THE REFERENCES.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given the requirement, an opponent, mouthpiece, and without the aid of the references.

Standard: The Marine must execute counters to strike while adhering to all safety precautions in accordance with the references.

PERFORMANCE STEPS:

1. Execute a counter to a rear hand punch.

a. Begin with the opponent extending his or her right hand in a rear hand punch.

b. Step forward and to the left at approximately a 45-degree angle, moving in toward the opponent.

c. Simultaneously raise your left arm and block or deflect opponent's rear hand as shown in figure 1.

d. Counter with a strike to the opponent's exposed target areas as shown in figure 2.

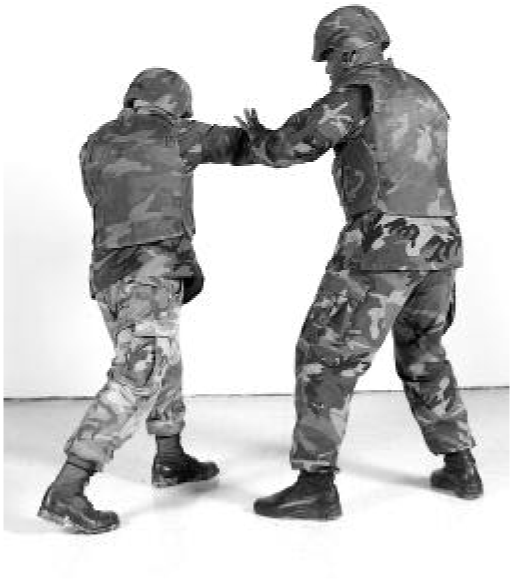


Figure 1

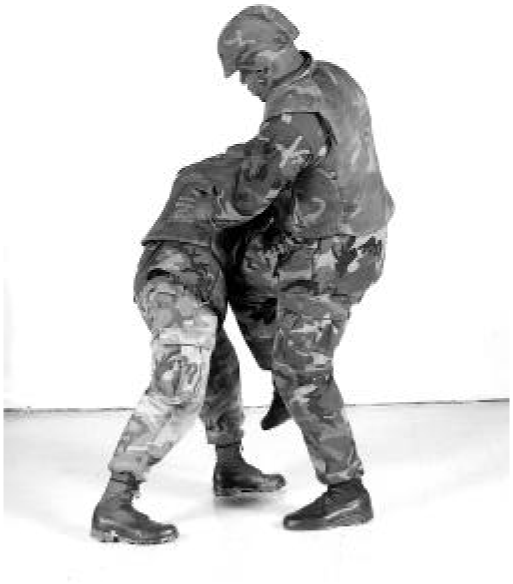


Figure 2

2. Execute the counter to a rear leg kick.

a. Step forward and to the right at approximately a 45-degree angle, moving in toward the opponent.

b. At the same time, use your lead hand or forearm block to deflect the opponent's leg as shown in figure 3.

c. Counter with a strike to the opponent's exposed target areas as shown in figure 4.

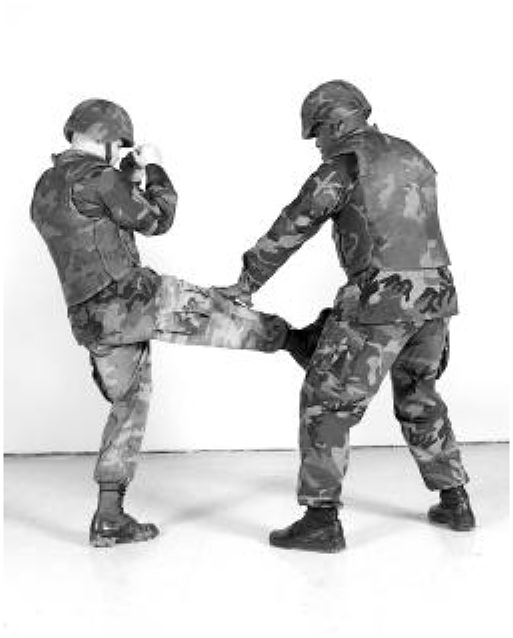


Figure 3

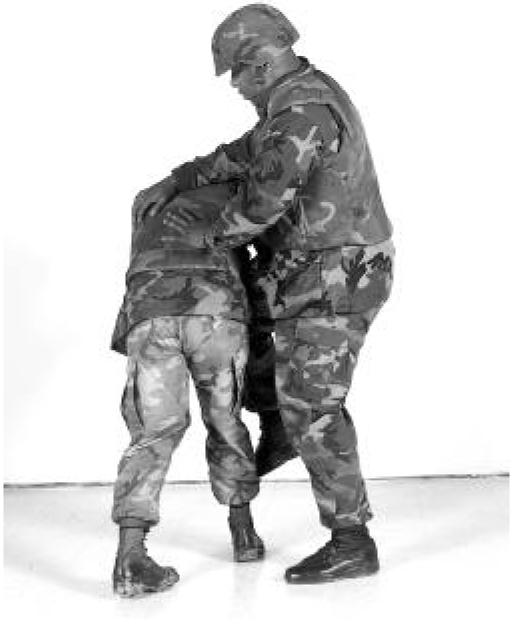


Figure 4

REFERENCE(S):

MCO 1500.54, *Marine Corps Martial Arts Training Program (MCMATP)*
MCRP 3-02B, *Close Combat*

ADMINISTRATIVE INSTRUCTIONS:

This task requires a soft surface.
Medical support must be available in training area when performing this task.
Ensure all safety precautions are adhered to when performing this task.

TASK: **MCCS.23.11 (CORE) EXECUTE COUNTERS TO CHOKES AND HOLDS**

CONDITION: **GIVEN THE REQUIREMENT, AN OPPONENT, MOUTHPIECE, AND WITHOUT THE AID OF REFERENCES.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given the requirement, an opponent, mouthpiece, and without the aid of references.

Standard: The Marine must execute counters to chokes and holds while adhering to all safety precautions.

PERFORMANCE STEPS:

1. *Execute a counter to a rear choke.*

a. With both hands, grasp the opponent's wrist and his forearm (at the radial nerve) and pull down just enough to clear your airway. Once the airway is clear, tuck your chin to protect your airway and to prevent the opponent from reapplying the choke as shown in figure 1.

b. With your left foot, step behind the opponent's right leg keeping both legs bent, almost in a squatting position as shown in figure 2.

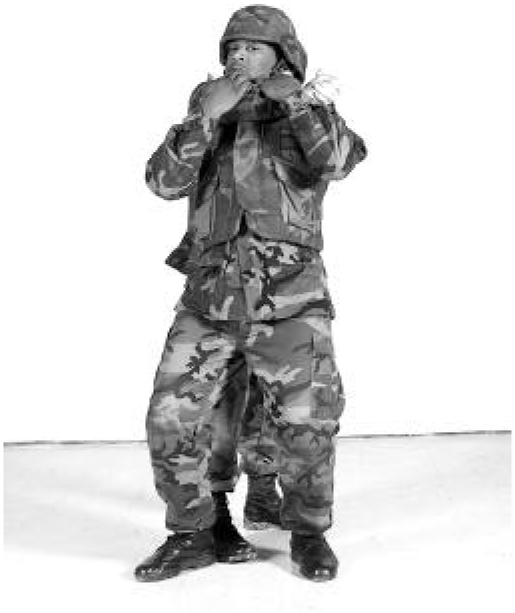


Figure 1

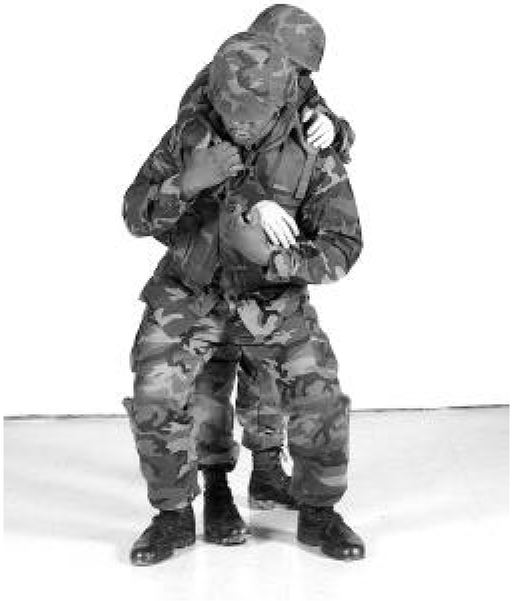


Figure 2

c. Grabbing you opponent’s pants legs or flesh, raise his or her legs and pivot your hips, turning your body to the left and throwing your opponent’s back over your bent leg as shown in figures 3 and 4.

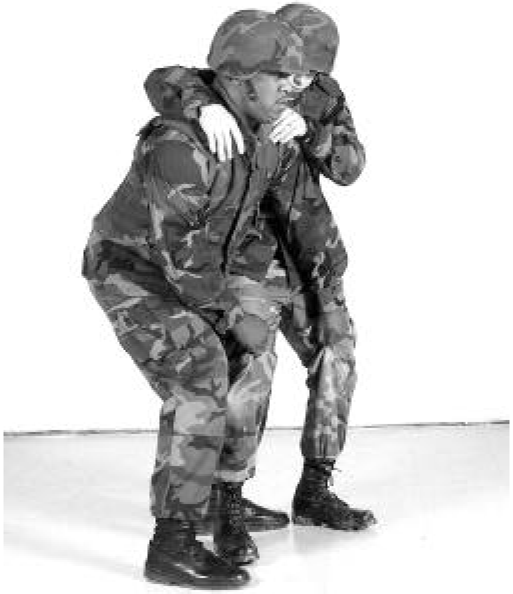


Figure 3

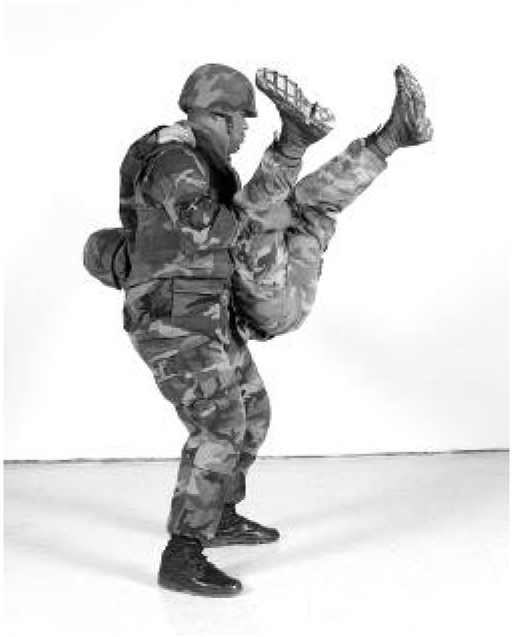


Figure 4

2. Execute counters to rear headlock.

a. With your right hand, grasp the opponent's wrist and forearm and pull down to clear your airway. Once the airway is clear, tuck your chin to protect your airway and prevent the opponent from reapplying the choke as shown in figures 5 and 6.

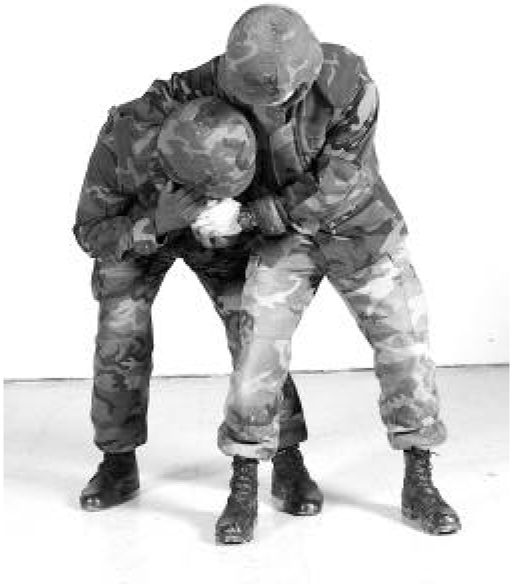


Figure 5

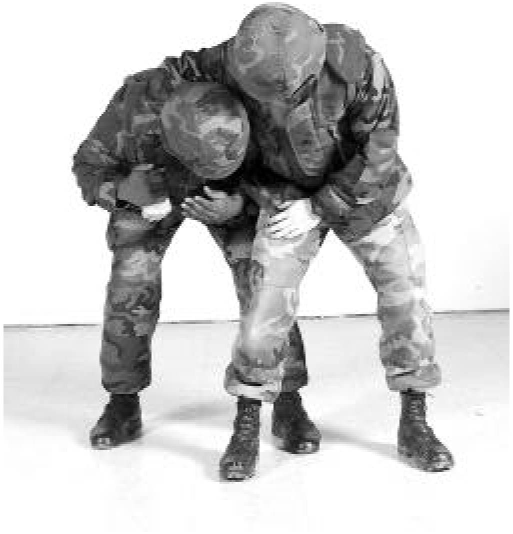


Figure 6

b. With your left arm, reach over the opponent's right shoulder and grab any part of the opponent's face (chin, nose, eyes) and pull back while rising to a standing position as shown in figures 7 and 8.

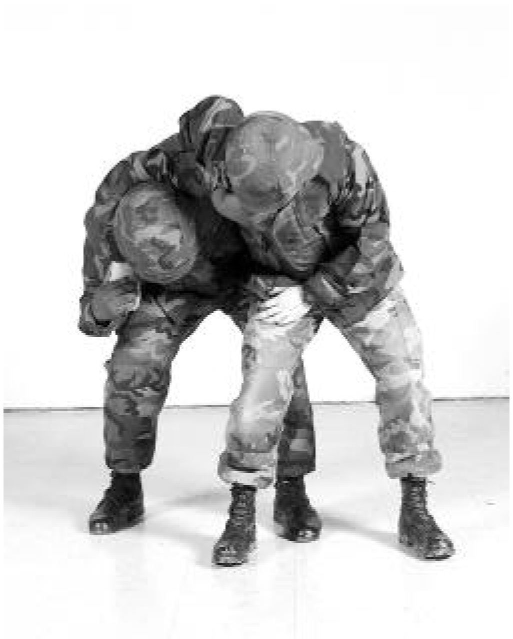


Figure 7

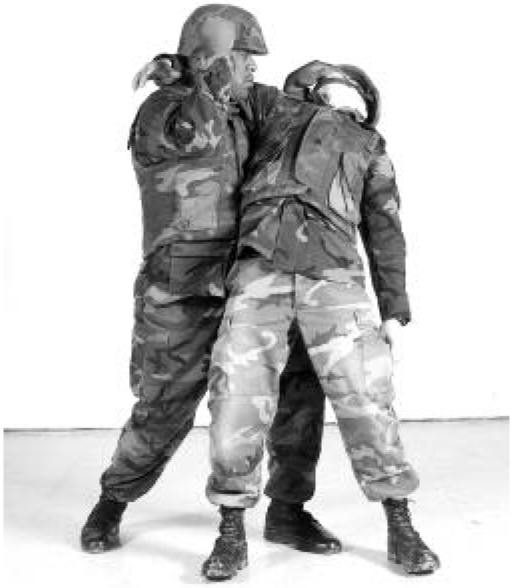


Figure 8

c. With your right hand, execute a hammer fist strike to the opponent's exposed throat as shown in figure 9.

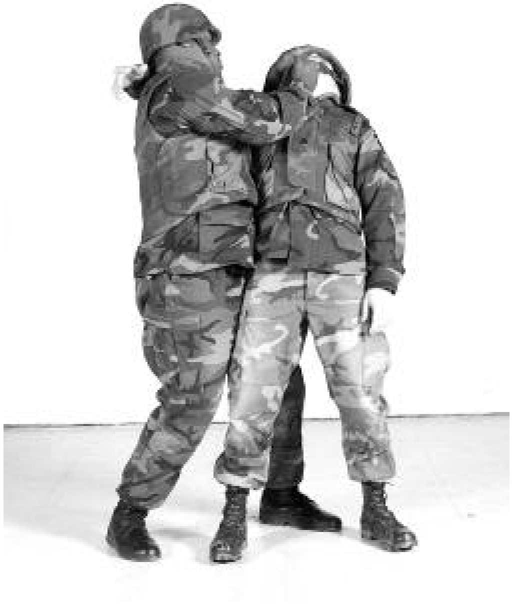


Figure 9

3. Execute counters to rear bear hug.

a. With your left foot, step behind the opponent's right leg, keeping both legs bent, almost in a squatting position. The left side of your body should be against the opponent's. It is important to keep the legs bent because this places your hips lower than your opponent's hips so you can easily off-balance him or her as shown in figures 10 and 11.

b. Bend your legs to the point that you can still maintain your balance.

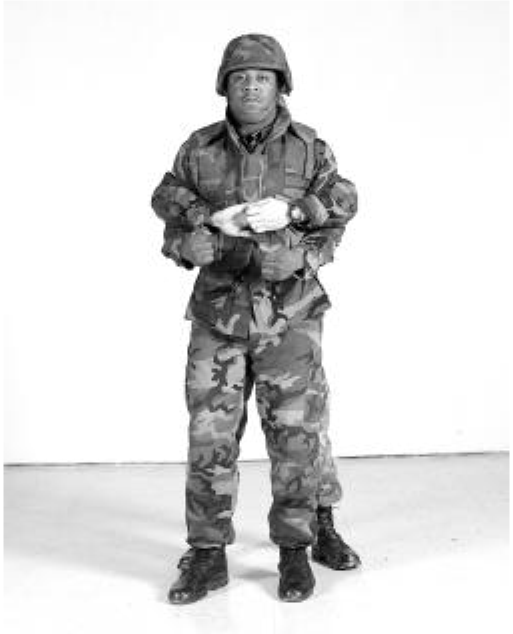


Figure 10

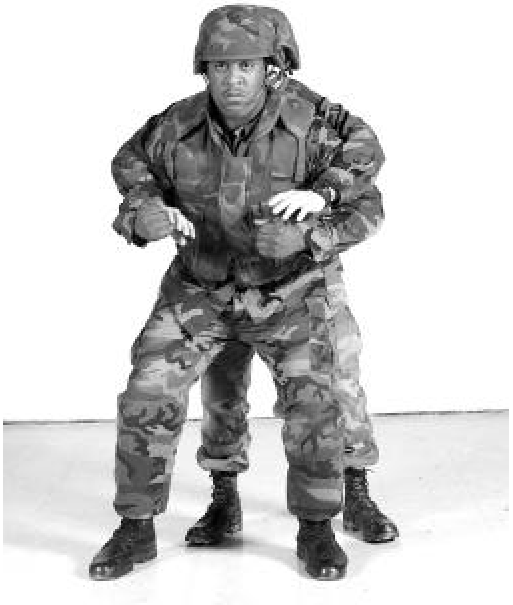


Figure 11

c. Grabbing you opponent's pants legs or flesh, raise his or her legs and pivot your hips, turning your body to the left and throwing your opponent's back over your bent leg as shown in figures 12 and 13.

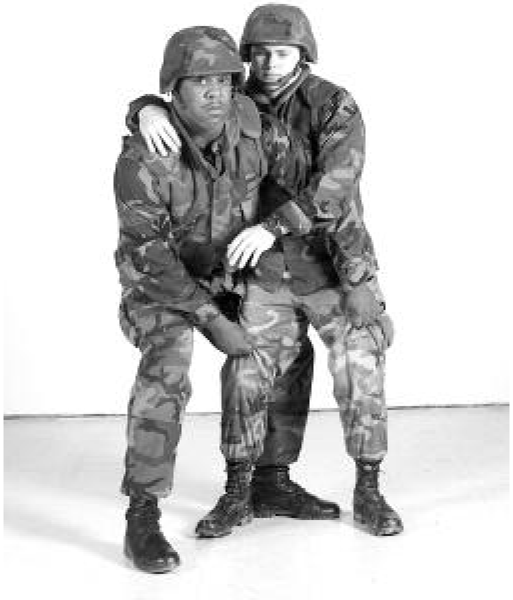


Figure 12

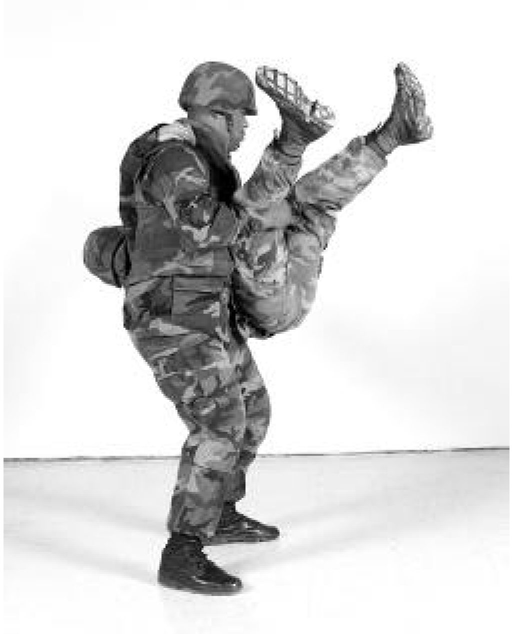


Figure 13

REFERENCE(S):

MCO 1500.54, *Marine Corps Martial Arts Training Program (MCMATP)*
MCRP 3-02B, *Close Combat*

ADMINISTRATIVE INSTRUCTIONS:

This task requires a soft surface.
Medical support must be available in training area when performing this task.
Ensure all safety precautions are adhered to when performing this task.

TASK: **MCCS.23.12 (CORE) EXECUTE UNARMED RESTRAINTS AND MANIPULATION**

CONDITION: **GIVEN THE REQUIREMENT, AN OPPONENT, 782 GEAR, HELMET, AND WITHOUT THE AID OF REFERENCES.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given the requirement, an opponent, 782 gear, helmet, and without the aid of the references.

Standard: The Marine must execute unarmed restraints and manipulation while adhering to all safety precautions and in accordance with the references.

PERFORMANCE STEPS:

1. *Execute a basic wristlock and takedown.*

a. With your right hand, grab the opponent's left hand by placing your thumb on the back of his or her hand so your knuckles are facing to your left.

b. Hook your fingers across the fleshy part of his or her palm below the thumb. The fingers are used to anchor the hand so leverage can be applied to twist and bend the joint as shown in figure 1.

c. Exert downward pressure with your thumb to bend the joint. Rotate his or her hand to your right to twist the joint.

d. Step in to the opponent to keep the opponent's hand in close to your body to control him or her and provide more leverage on the wristlock.

e. The second hand can be incorporated in the wristlock to maximize the leverage needed to assist in applying pressure to bend and twist the joint as shown in figure 2.

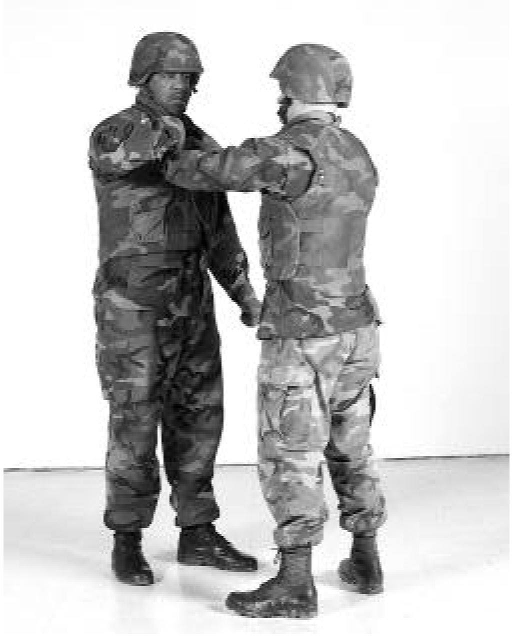


Figure 1

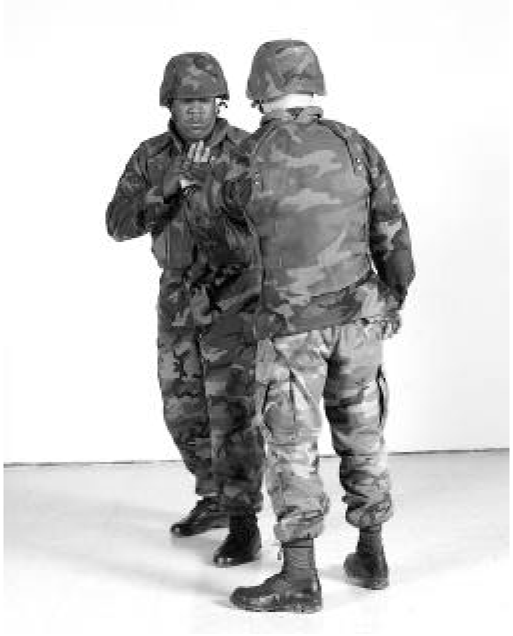


Figure 2

2. Execute a reverse wristlock.

a. With your right hand, place your palm on the back of the opponent's right hand and wrap your fingers across the fleshy part of his or her palm below his or her little finger as shown in figure 3.

b. Twist the opponent's hand to your right while stepping in to place his or her hand against your chest. Apply downward pressure on the opponent's hand against your chest. Leave the opponent's hand on your chest to fully control the opponent and to gain leverage.

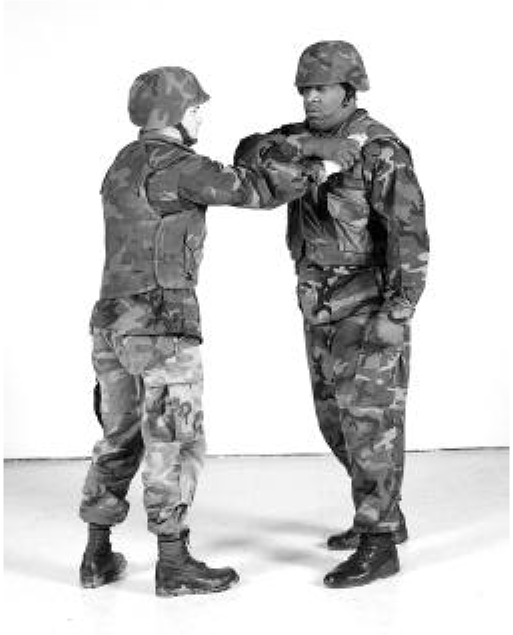


Figure 3

c. Lean forward to use your body weight to add additional pressure to the joint as shown in figure 4.

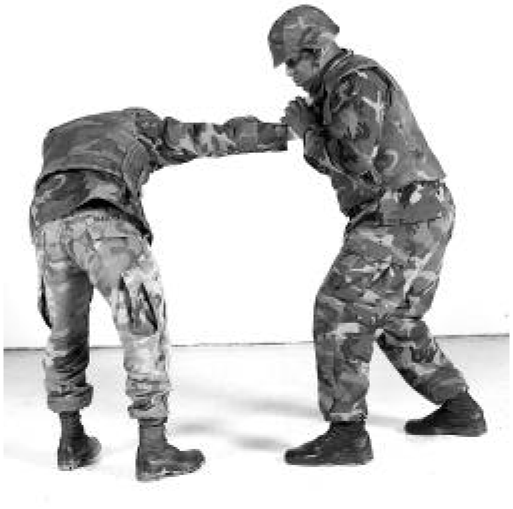


Figure 4

3. Execute an armbar and takedown.

a. With your right hand, grab your opponent’s right wrist as shown in figure 5.

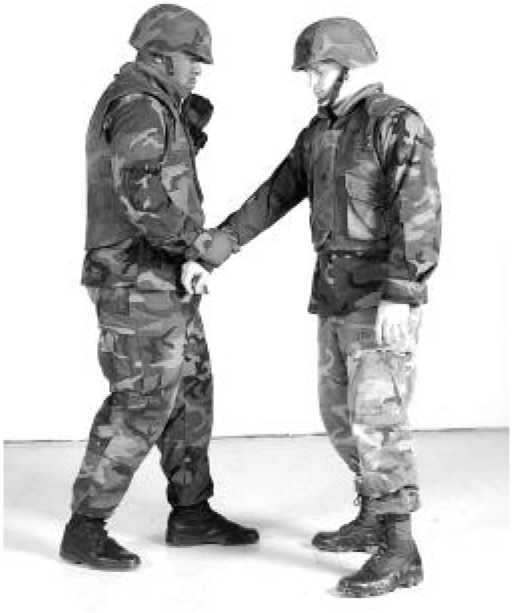


Figure 5

b. Pivot your body so your side is facing the opponent, and bring your left hand down on or above the opponent’s elbow joint as shown in figure 6.

c. With your left hand, apply downward pressure on or above the opponent’s elbow joint while pulling up on the opponent’s wrist.

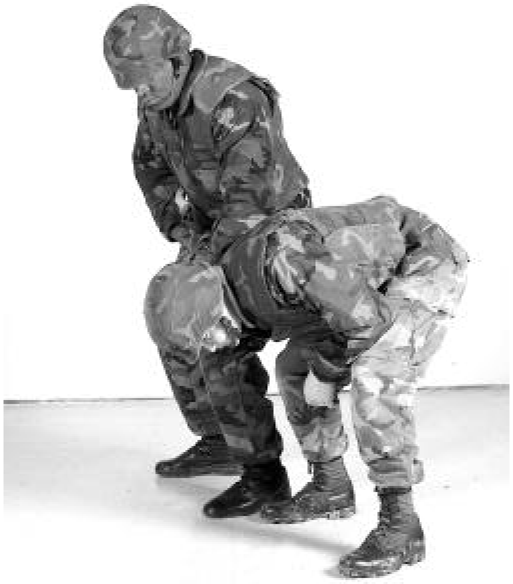


Figure 6

d. Applying downward pressure on the elbow and pivoting on the left foot, quickly turn to your right to take the opponent to the ground as shown in figure 7.

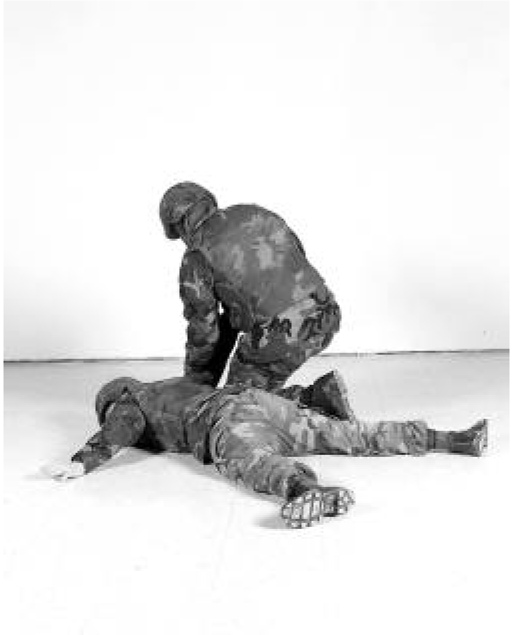


Figure 7

REFERENCE(S):

MCO 1500.54, *Marine Corps Martial Arts Training Program (MCMATP)*
MCO 5500.6, *Arming of Security and Law Enforcement (LE) Personnel and the Use of Force*
MCRP 3-02B, *Close Combat*

ADMINISTRATIVE INSTRUCTIONS:

This task requires a soft surface.
Medical support must be available in training area when performing this task.
Ensure all safety precautions are adhered to when performing this task.

TASK: **MCCS.23.13 (CORE) EXECUTE ARMED MANIPULATION**

CONDITION: **GIVEN THE REQUIREMENT, AN OPPONENT, A RIFLE, 782 GEAR, HELMET, AND WITHOUT THE AID OF THE REFERENCES.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given the requirement, an opponent, a rifle, 782 gear, helmet, and without the aid of the references.

Standard: The Marine must execute armed manipulation while adhering to all safety precautions in accordance with the references.

PERFORMANCE STEPS:

1. Execute a counter to overhand grab.

a. Trap the opponent’s finger to hold his or her hand in place as shown in figure 1.

b. Rotate the barrel to place it across the opponent's forearm and apply downward pressure as shown in figure 2. This action is similar to an arm bar.

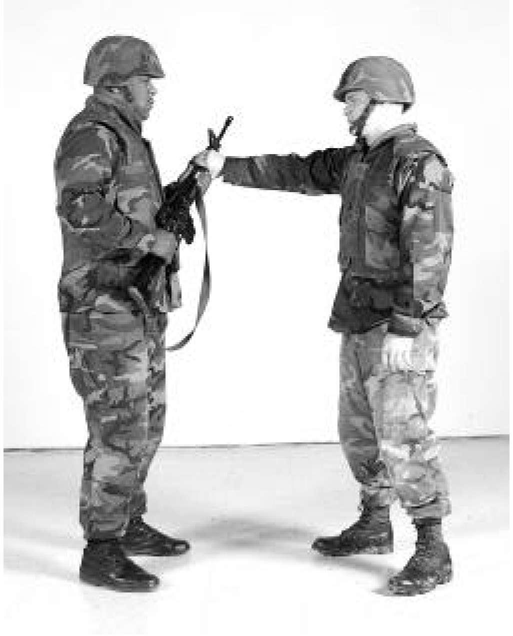


Figure 1

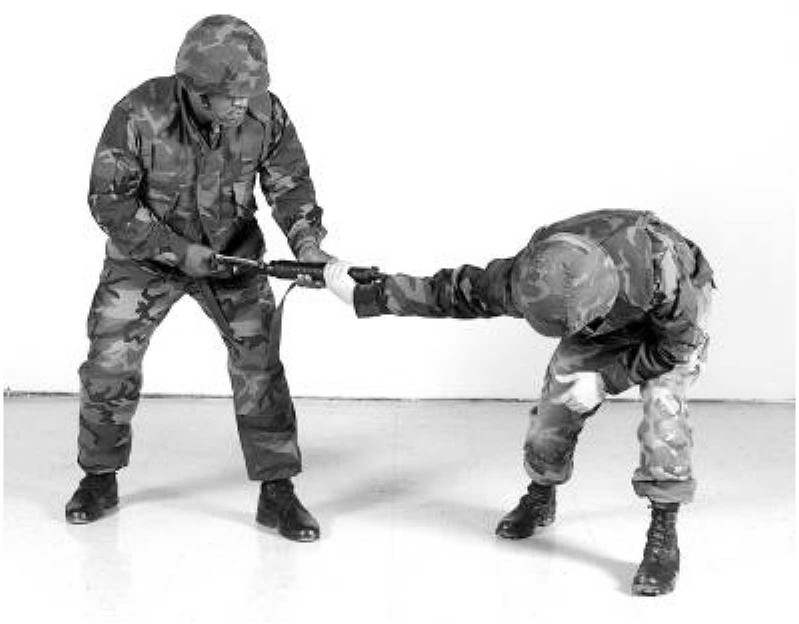


Figure 2

2. Execute a counter to underhand grab.

a. Trap the opponent’s closest fingers above the knuckle with your thumb so he or she cannot release his or her grip as shown in figure 3.

b. Apply bone pressure on the opponent's finger to initiate pain compliance.

c. While maintaining pressure on the opponent's hand, quickly rotate the barrel of the weapon down as shown in figure 4.

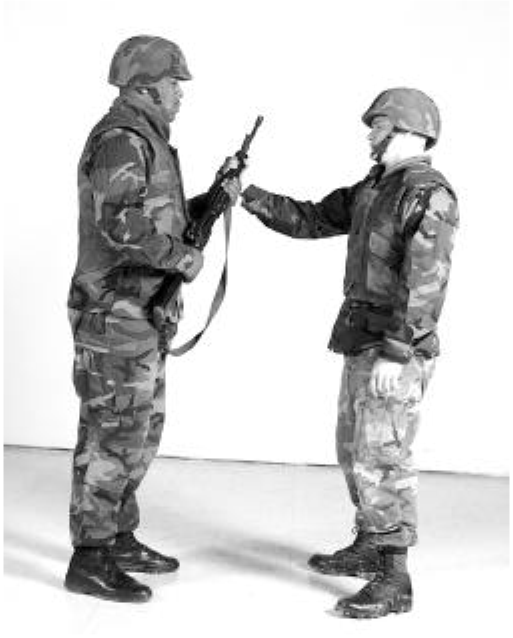


Figure 3

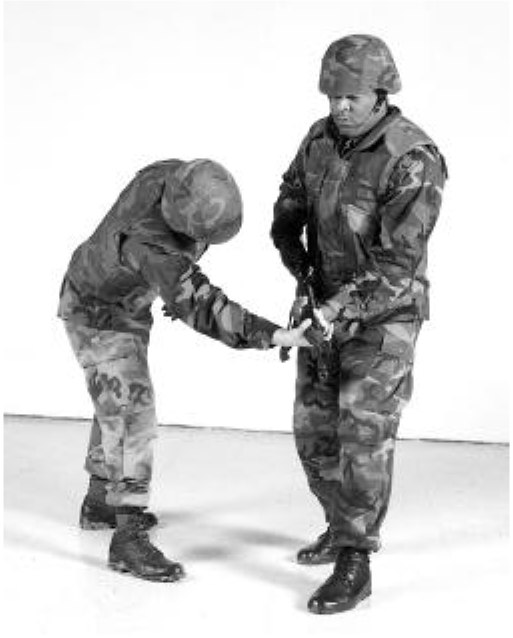


Figure 4

d. At the same time, quickly pivot to off-balance the opponent as shown in figure 5.

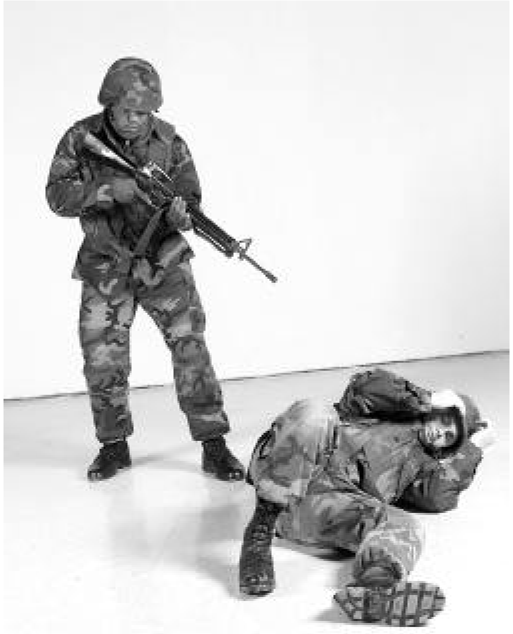


Figure 5

3. Execute a counter to muzzle grab.

a. Rotate the muzzle in a circle in a quick, turning action as shown in figures 6 and 7.

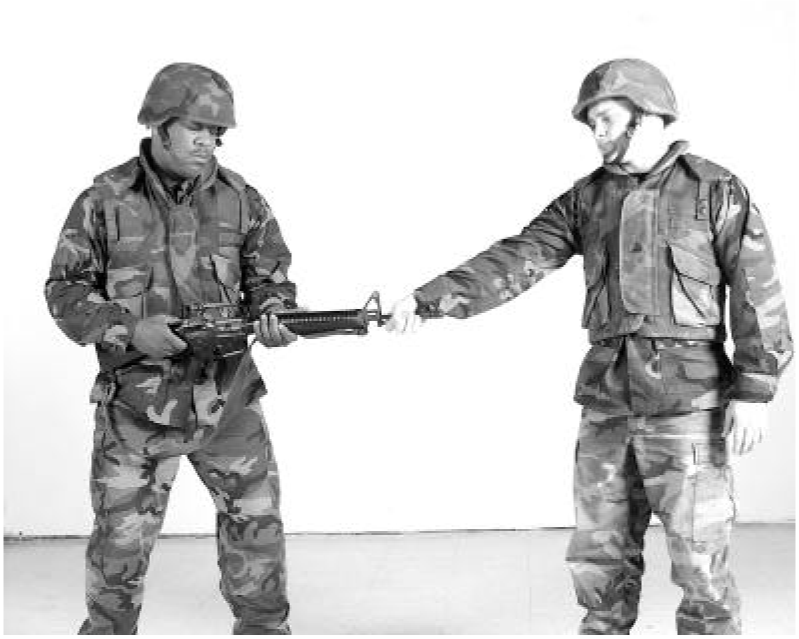


Figure 6

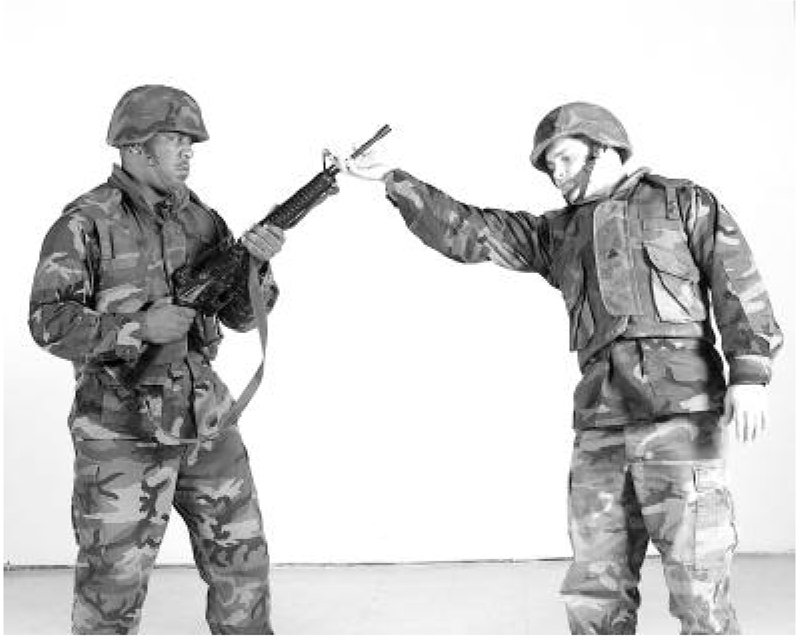


Figure 7

b. Slash downward with the muzzle to release the opponent’s grip as shown in figure 8.

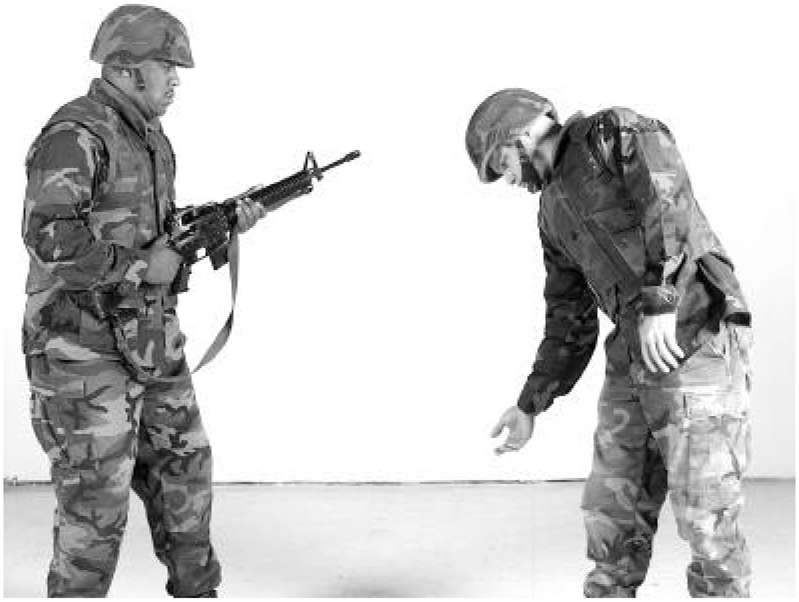


Figure 8

REFERENCE(S):

MCO 1500.54, *Marine Corps Martial Arts Training Program (MCMATP)*
MCO 5500.6, *Arming of Security and Law Enforcement (LE) Personnel and the Use of Force*
MCRP 3-02B, *Close Combat*

ADMINISTRATIVE INSTRUCTIONS:

This task requires a soft surface.
Medical support must be available in training area when performing this task.
Ensure all safety precautions are adhered to when performing this task.

TASK: **MCCS.23.14 (CORE) EXECUTE KNIFE TECHNIQUES**

CONDITION: **GIVEN THE REQUIREMENT, TRAINING KNIFE, EYE PROTECTION, GROIN PROTECTION, MOUTHPIECE, AND REFERENCES.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given the requirement, training knife, eye protection, groin protection, mouthpiece, and without the aid of the references.

Standard: The Marine must execute knife techniques while adhering to all safety precautions in accordance with the references.

PERFORMANCE STEPS:

1. Execute a vertical slash.

a. Facing your opponent as shown in figure 1, thrust your right hand out, bringing the weapon straight down into him or her as shown in figure 2.

b. Continue dragging the knife down through the opponent's body. Maintain contact on the opponent's body with the blade of the knife.

c. Return to the basic warrior stance.

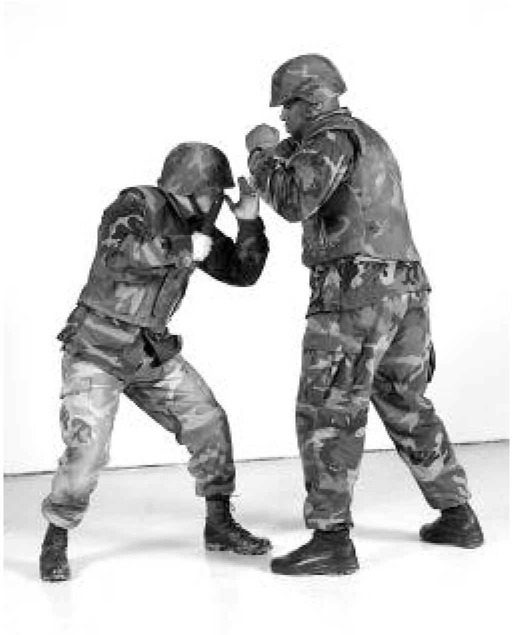


Figure 1

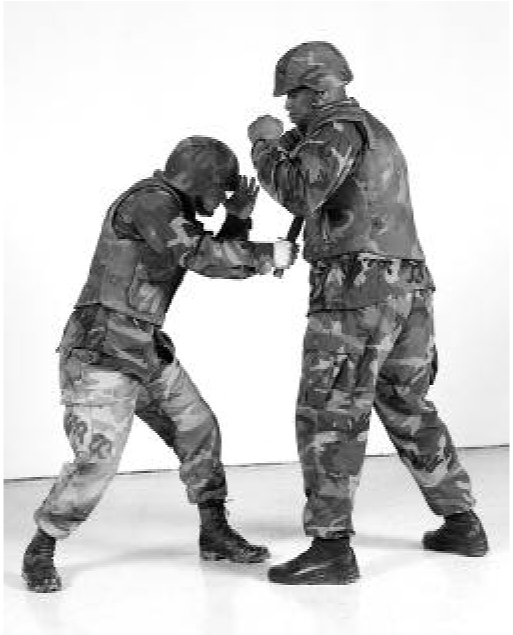


Figure 2

2. Execute a vertical thrust.

a. Facing your opponent as shown in figure 3, thrust your right hand toward the target, inserting the knife blade straight into him or her as shown in figure 4.

b. Pull the knife out of the opponent.

c. Return to the basic warrior stance.

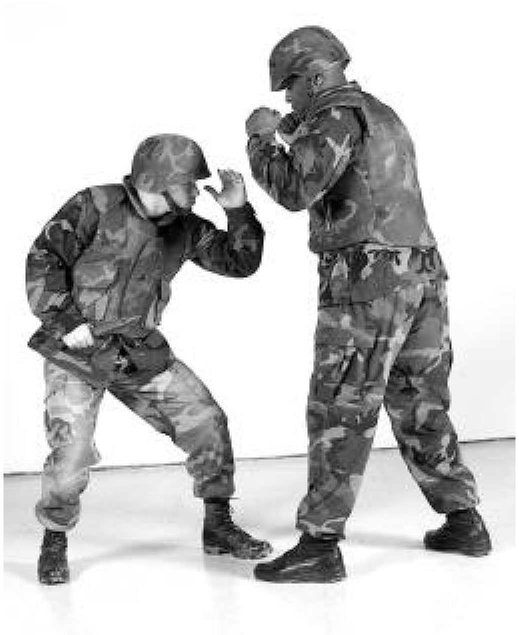


Figure 3

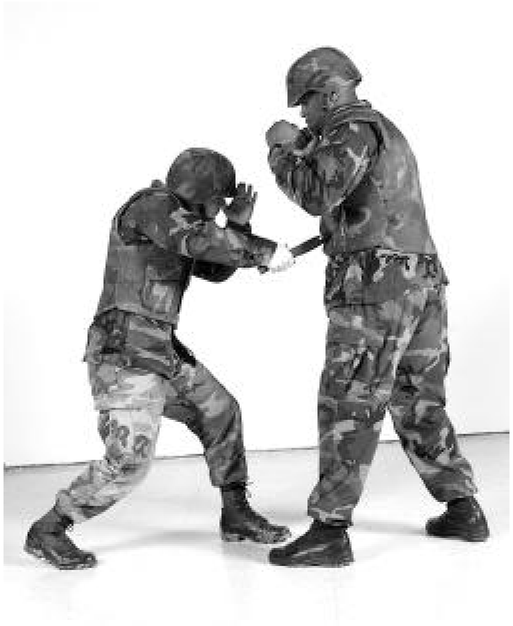


Figure 4

REFERENCE(S):

MCO 1500.54, *Marine Corps Martial Arts Training Program (MCMATP)*
MCRP 3-02B, *Close Combat*

ADMINISTRATIVE INSTRUCTIONS:

This task requires a soft surface.
Medical support must be available in training area when performing this task.
Ensure all safety precautions are adhered to when performing this task.

TASK: **MCCS.23.15 (CORE) IDENTIFY WEAPONS OF OPPORTUNITY**

CONDITION: **GIVEN THE REQUIREMENT, SCENARIO, BATTLESPACE, AND WITHOUT THE AID OF THE REFERENCES.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given the requirement, scenario, battlespace, and without the aid of the references.

Standard: The Marine must identify weapons of opportunity while adhering to all safety precautions in accordance with the references.

GENERAL INFORMATION:

In any unarmed close combat situation, a Marine can rely on his or her body as a weapon. In addition, a Marine should be ready and able to use anything around him or her to serve as a weapon. This may mean throwing sand or liquid in an opponent's eyes to temporarily impair his or her vision so you can smash the opponent's head with a rock, e-tool, helmet, or anything that is readily available. In a confrontation, a Marine must use whatever it takes to win or face the very real possibility of losing his or her life.

PERFORMANCE STEP:

1. Identify blunt and sharp objects that could be used as weapons.

- Weapons of opportunity include

(1) Entrenching Tool (E-TOOL). Marines commonly carry an E-tool. It can be an excellent weapon, especially when sharpened. The E-tool can be used to block, slash, smash, and thrust at an opponent as shown in figure 1.

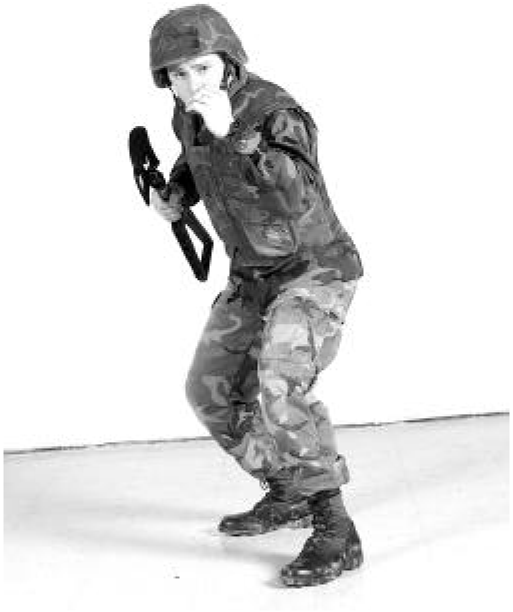


Figure 1

(2) Tent Pole and Pins. Tent poles and pins can be used to block, strike, or thrust at an opponent as shown in figure 2.

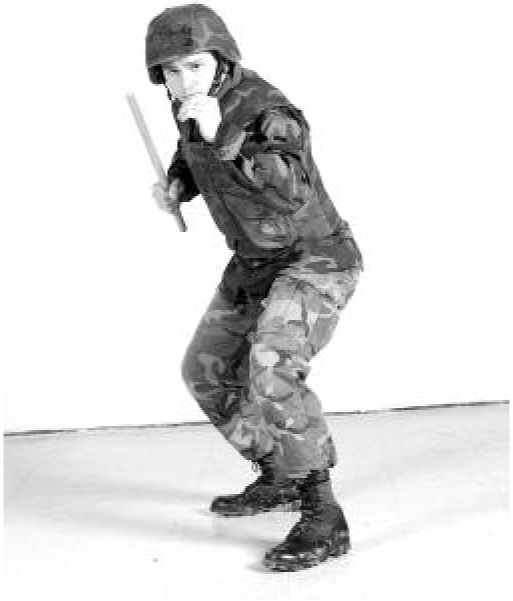


Figure 2

(3) Web or Riggers Belt. A web or riggers belt can be stretched between your hands and used to block an opponent's attack. It can also be an effective choking weapon as shown in figure 3.

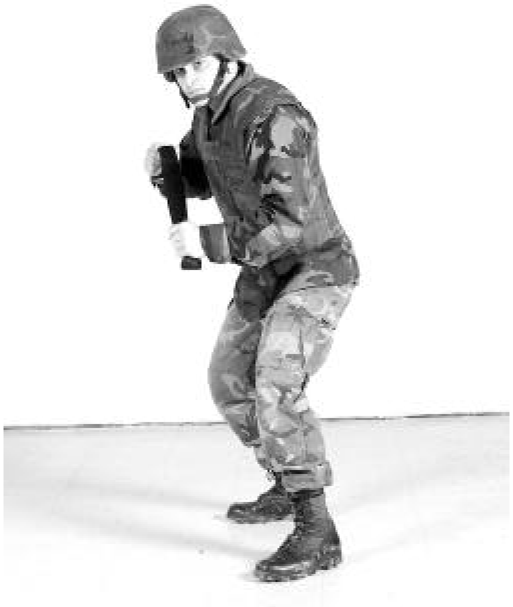


Figure 3

(4) Debris on the Battlefield. Debris on the battlefield such as sticks, glass, or any sharp piece of metal may be used to cut, slash, or stab an opponent. Other debris such as a shovel or ax handles, boards, metal pipe, or broken rifles may be used to strike an opponent or apply a choke as shown in figure 4.

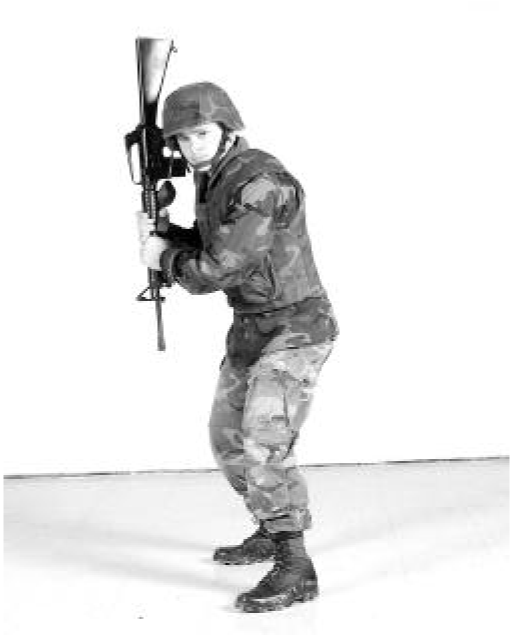


Figure 4

(5) Helmet. The helmet's primary use is to protect the Marine's head, however, a helmet can also be used to strike an opponent on an unprotected area like the head and face. Grasped the rim of the helmet with both hands. Thrust your arms forward and strike your opponent with the base of the helmet as shown in figure 5.

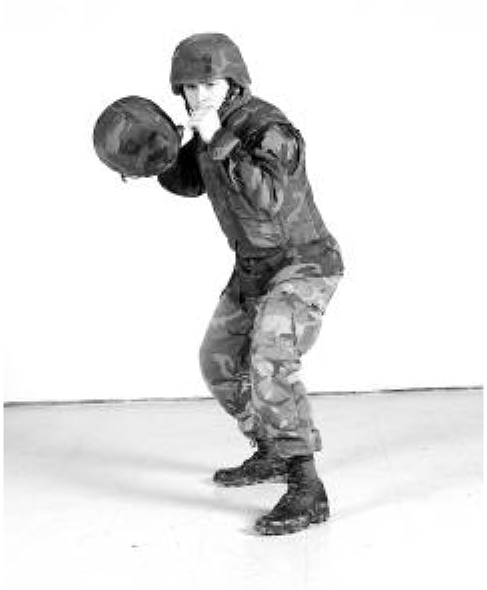


Figure 5

REFERENCE(S):

MCO 1500.54, *Marine Corps Martial Arts Training Program (MCMATP)*
MCRP 3-02B, *Close Combat*

ADMINISTRATIVE INSTRUCTIONS:

Ensure all safety precautions are adhered to when performing this task.

TASK: **MCCS.23.16 (CORE) EXPLAIN THE RESPONSIBLE USE OF FORCE**

CONDITION: **GIVEN THE REQUIREMENT AND REFERENCES.**

STANDARD: **IN ACCORDANCE WITH THE REFERENCES.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given the requirement and the references.

Standard: The Marine must explain the responsible use of force in accordance with the references.

PERFORMANCE STEPS:

1. *Identify the continuum of force.*

a. Compliant (Cooperative): Verbal Commands

b. Resistant (Passive): Contact Controls

c. Resistant (Active): Compliance Techniques

d. Assaultive (Bodily Harm): Defensive Tactics

e. Assaultive (Serious Bodily Harm or Death): Deadly Force

2. *Identify the appropriate response when confronted with a potentially aggressive situation while in an off-duty status.*

a. Identify a possible confrontational situation before you become involved and leave the area if possible.

b. If you have become involved, attempt to remove yourself from the situation as quickly as possible.

c. If unable to leave or if extenuating circumstances prevent you from leaving, attempt to de-escalate the situation. Do not become confrontational yourself.

d. If you find yourself being assaulted or attacked, immediately take charge of the situation by using the minimum amount of force necessary.

e. Be aware that alcohol and emotion do not mix and further aggravate a confrontational situation. A Marine does not lose control of himself or herself. You are a warrior whose mastery of the Marine Corps Martial Arts allows you to control yourself, your emotions, and the situation.

REFERENCE(S):

MCO 1500.54, *Marine Corps Martial Arts Training Program (MCMATP)*
MCO 5500.6, *Arming of Security and Law Enforcement (LE) Personnel and the Use of Force*
MCRP 3-02B, *Close Combat*

TASK: **MCCS.24.01 (CORE) PERFORM COMBAT WATER SURVIVAL SKILLS**

CONDITION: **GIVEN A WATER SCENARIO, A PACK, AND 782-GEAR.**

STANDARD: **TO ACHIEVE THE PERFORMANCE STEPS PER THE REFERENCE.**

EVALUATION GUIDELINES TO BE USED DURING TRAINING:

Condition: Given a water scenario, a pack, and 782-gear.

Standard: To achieve the performance steps per the reference.

PERFORMANCE STEPS:

1. *Perform survival swimming skills.*

- Survival Swimming. An object that floats has positive buoyancy. An object that sinks has negative buoyancy. Most people have positive buoyancy and will float on the water's surface. Regardless of whether you naturally float or sink, you can remain at the surface for extended periods without a life preserver if you apply the appropriate survival strokes. Regardless of which survival stroke you use, the following principles apply. Remember these principles with the acronym SAFE.

  (1) **S**low easy movements. Move slowly to conserve energy and minimize heat loss.

  (2) **A**pply natural buoyancy. Use natural buoyancy to support the body.

  (3) **F**ull lung inflation. Fill the lungs with each breath. Do not hold air in the cheeks.

  (4) **E**xtreme relaxation. Tight muscles are denser than relaxed ones and do not float as well.

2. *Survive with a life preserver.*

a. Life Preservers. U.S. Navy ships and landing craft issue kapok life preservers. The kapok life preserver is bulky and clumsy, but it will support heavy loads.

CAUTION: Do not cut or puncture the kapok life preserver's protective case. Kapok loses its buoyancy once it contacts water.

b. U.S. Marine Corps aircraft and amphibious assault vehicles have inflatable life preservers.

CAUTION: Do not inflate the life preserver until clear of the aircraft or vehicle.

3. *Survive without a life preserver.*

- Without a Life Preserver. When in open water without a life preserver, use anything that floats to help you survive.

  (1) Floating With an Inflated Shirt. You can float by a bubble of air trapped in the shoulders of your shirt. The air rises to the back and shoulders of the shirt and supports you at the water's surface. If necessary, assume the heat escape lessening position (HELP) to slow heat loss (see performance step 7). The following steps produce a bubble of trapped air in a shirt:

    (a) Button the shirt's collar button.

    (b) Open the next lower button.

(c) Take a deep breath and bend forward as far as possible as shown in figure 1.

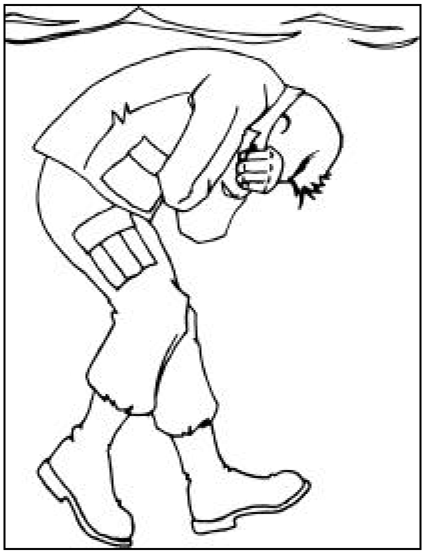


Figure 1

(d) Hold open unbuttoned gap in shirt and blow in air.

(e) Repeat with another lung full of air if required.

(f) Gather and hold the shirtfront tightly in both hands to prevent the shirt from floating too high as shown in figure 2.

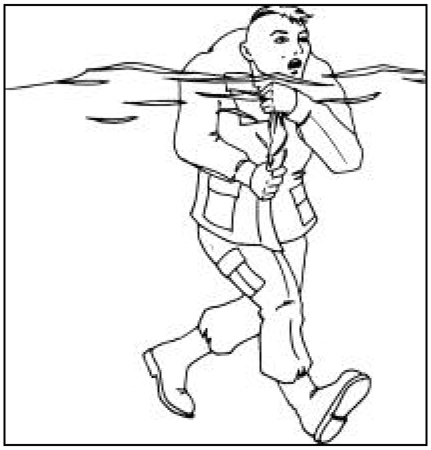


Figure 2

(g) Repeat inflation as required.

(2) Floating With Inflated Trousers. In cold water, submerging the head to remove and inflate the trousers results in heat and energy losses that outweigh the benefit of using trousers as a flotation device. In warm water, trousers should be used as an expedient flotation device. There are three methods for removing and inflating trousers. Once inflated, you float motionless as if wearing a life preserver. If needed, assume the heat escape lessening position to slow heat loss. Re-inflate trousers as needed. As trousers and shirt dry, air leaks out of the legs. To slow this process, occasionally splash water on the fabric.

(a) Sling Method. The sling method works if you are a strong swimmer or naturally very buoyant. To inflate trousers using the sling method, take the following steps:

1. Take a deep breath, bend over, and remove boots as shown in figure 3.

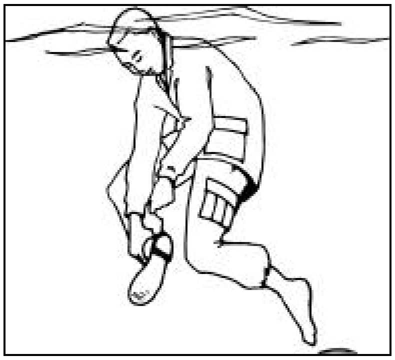


Figure 3

NOTE: If you can reach shore, tie bootlaces together and suspend the boots from shirt or hang them around your neck so they rest on your chest. If you cannot reach shore, drop your boots.

2. Remove trousers as shown in figure 4.

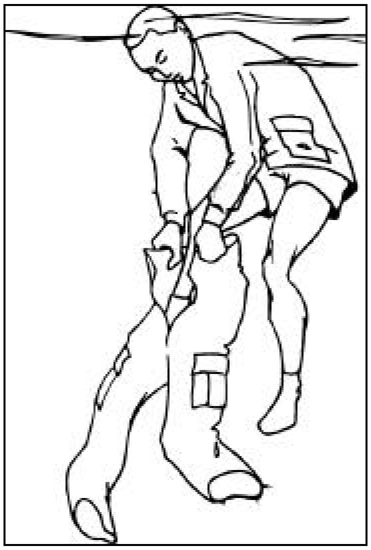


Figure 4

3. Tie the bottom of the trouser legs in a square knot as shown in figure 5.

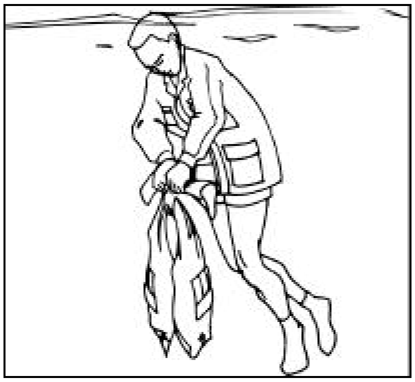


Figure 5

4. Button or zip the fly closed.

5. Hold trousers above the water's surface and behind head. Grasp both sides of the waistband and open wide as shown in figure 6.

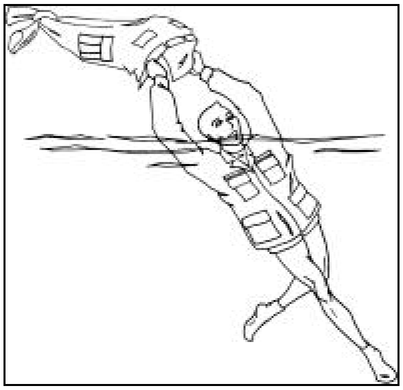


Figure 6

6. Kick strongly to stay on top of water while slinging trousers overhead as shown in figure 7.

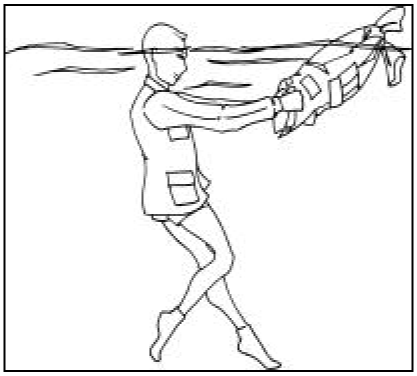


Figure 7

NOTE: Slinging the trousers overhead scoops air into them. Once the waistband hits the water, air is trapped in the trousers' legs.

7. Hold the waistband underwater to prevent air from escaping.

8. Slip inflated legs over head. Hold rolled waistband against chest as shown in figure 8.

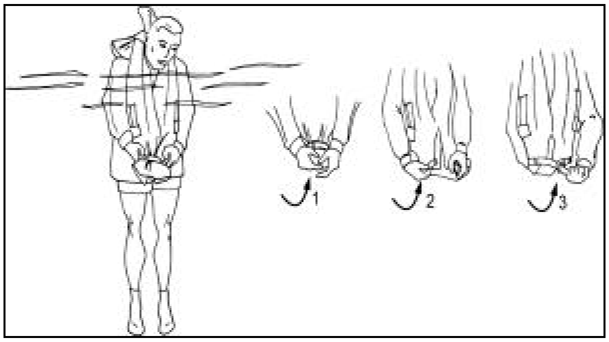


Figure 8

9. Fold the waistband's outside corners toward the center to form a point. Fold the point upward several times and hold as shown in figure 8.

10. Rest the back of the neck against the knot. Lie back and relax as shown in figure 9. Repeat overhead sling as often as necessary to replace air in the trousers that escapes over time.

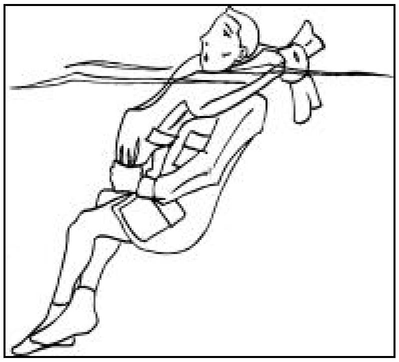


Figure 9

(b) Splash Method. The splash method is an alternative to the sling method. As with the sling method, you must kick strongly to remain at the surface. The following steps show proper inflation with the splash method:

1. Follow steps l through 4 under the sling method.

2. Hold the trousers just below the water's surface. Grasp both sides of the waistband and open wide.

3. Extend your hand 6 inches or more above the water's surface.

4. Stroke downward, angling down across the body and toward waistband.

NOTE: This sends a mixture of water and air bubbles into the trousers. The water passes through the fabric, but the air remains trapped in the legs.

5. Follow steps 8 through 10 under the sling method.

(c) Blow Method. The blow method is another alternative to the sling method. Use the blow method if you are a weak swimmer. The following steps show proper inflation with the blow method:

1. Follow steps l through 4 under the sling method.

2. Hold the trousers above the water's surface. Grasp both sides of the waistband and open wide.

3. Take a deep breath as shown in figure 10.

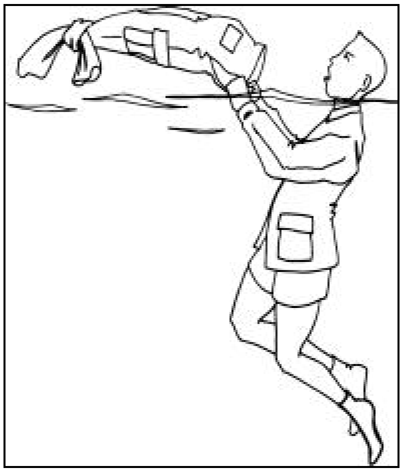


Figure 10

4. Drop 2 feet below the water's surface, pulling the waistband underwater as shown in figure 11.

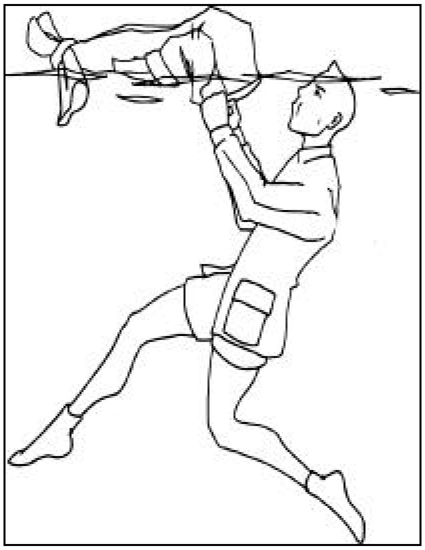


Figure 11

5. Hold the waistband open with both hands and blow air into the trousers as shown in figure 12.

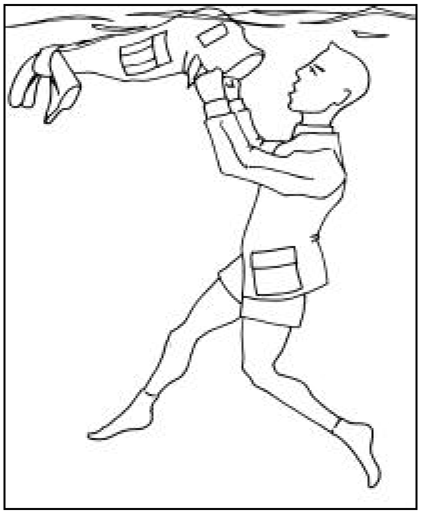


Figure 12

6. Repeat the last two steps as required to inflate.

7. Follow steps 8 though 10 under the sling method.

4. *Prepare equipment.*

a. The following items listed in the table below are available through the supply system:

ITEM	NOMENCLATURE	SIZE	NSN
Waterproof bags			TAMCN=V4070
	Pistol bag	Cover, plastic size #1	8” x 18”
	Rifle bag	Cover, plastic size #2	10” x 56”
	Machine gun bag	Cover, plastic size #3	15” x 56”
	Multipurpose bag	Cover, plastic size #4	20” x 84”
Panama work vest	Life preserver, vest		4020-00-55-9006
Small plastic bag	Bag, plastic self-sealing	6” x 6”	8105-00-837-7754
	Bag, plastic self-sealing	12” x 12”	8105-00-837-7754
Riggers tape	Tape, 2½-inch olive drab		7510-00-074-5100
Caulking	Sealing compound, temporary seal		8030-00-264-3888
Willie peter bag	Bag, waterproof clothing		TAMCN=K4030
			8465-00-261-6909

b. Tape or pad equipment corners and sharp edges. Place items to be packed inside plastic bags. Plastic trash bags work well for bulky equipment (e.g., sleeping bags, field jackets, gas masks, shelter halves). Use small plastic bags for small items (e.g., shaving gear).

NOTE: If the gas mask must be carried outside the pack, cover it with a waterproof bag.

c. You may have rubberized "waterproof" bags in which to carry sleeping bags or with which to line compartments of your pack. Often, such bags ARE NOT waterproof. They protect bags made of plastic, but may leak if used alone.

(1) Tying a Plastic Bag. Do not inflate plastic bags with air because they can burst if pressed from the outside. Try to remove excess air from the plastic bag. Secure the mouth of the bag as shown in figure 13.

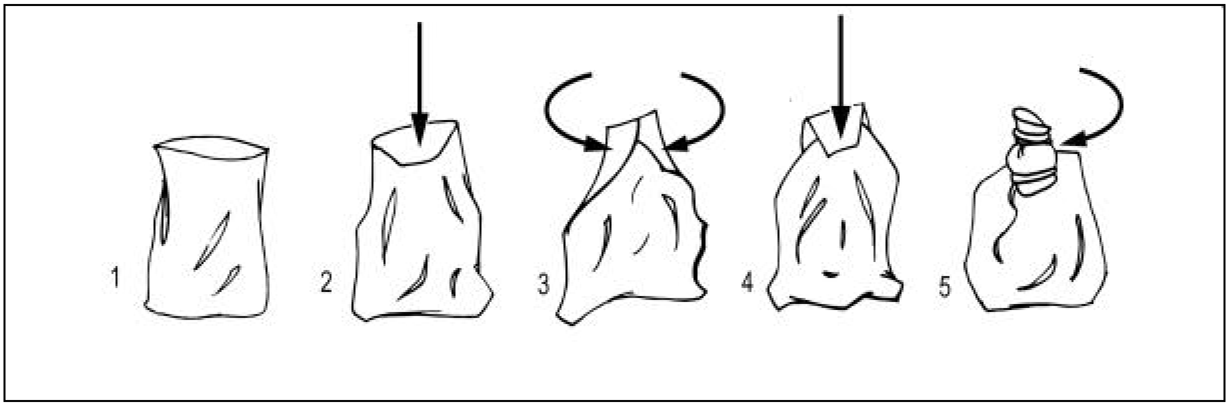


Figure 13

(2) Packing the Pack. Place plastic bags inside the pack. Handle them carefully to avoid rips. Load sharp items (e g., tent pegs, poles) so as to prevent punctures in the bag. Place items in the pack in the order of expected use. Close the pack and its compartments. Attach sleeping mats or bags as high as possible on the outside of the pack.

5. *Survive with a pack.*

a. You may also face many water obstacles once ashore. These obstacles include rivers, creeks, lakes, ponds, and canals. Your pack is your key piece of equipment to survive water accidents once ashore. If the pack's contents are properly waterproofed, it can support you (with a combat load) in the water. Buoyed up by the waterproofed pack, you can emerge from the water with all the equipment (i.e., boots, helmet, flak jacket, weapon, etc.) that you need to continue the mission.

b. The pack floats because of a physical law known as the *Archimedes'* principle. The principle states that an object submerged in a liquid is buoyed up by a force equal to the weight of liquid displaced (pushed aside) by the object. If the weight of the displaced liquid is greater than the weight of the object, the object floats. If the weight of the displaced liquid is less than the weight of the object, the object sinks.

c. An object that sinks in water (e.g., a machinegun) still weighs less in the water than on land. Even though a machinegun sinks, it is still buoyed up by a force equal to the weight of water it displaces. For this reason, you should not try to hold yourself or your equipment any higher out of the water than they would naturally float. Doing so wastes energy and body heat.

6. *Swim with a pack.*

- There is no one specific technique for swimming while wearing a pack. You can float nearly vertical and propel yourself forward with bicycle style kicks and breaststroke style arm sweeps. You can also use the combat travel stroke, which is faster but more tiring. The objective is to move forward and still perform your mission when you exit the water as shown in figure 14. Experiment with various techniques during water survival training to find the most effective method for you.

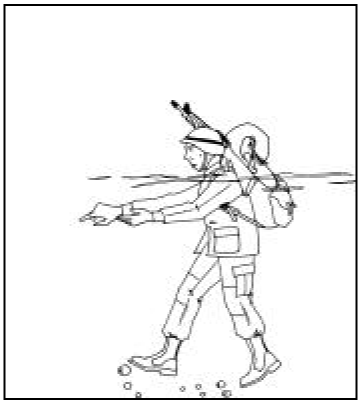


Figure 14

7. *Protect against the cold.*

a. The head is the part of the body from which heat loss is greatest. Wearing a life jacket holds the head above water and reduces heat loss. However, the throat, chest, and groin also lose heat rapidly as shown in figure 15.

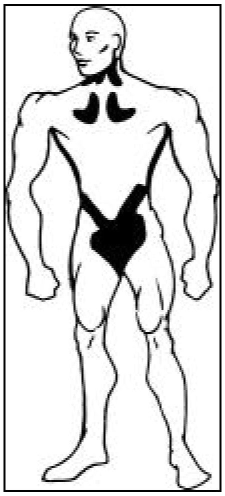


Figure 15

b. If equipped with a life preserver, assume the heat escape lessening position (HELP) to slow heat loss. This position protects major blood vessels near the body's surface. These areas lack insulating fat and are vulnerable to the chilling effects of cold water. The following steps protect vulnerable areas:

(1) Tuck chin down tightly to cover throat as shown in figure 16.

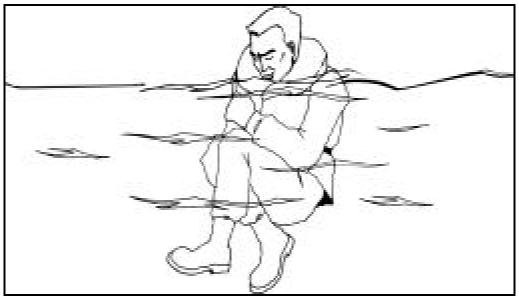


Figure 16

(2) Clamp hands tightly inside the armpits.

(3) Draw legs up in a fetal position to protect groin as shown in figure 16.

c. Group Protection from the Cold. Two or more Marines equipped with life preservers should wedge tightly together as shown in figure 17. Follow the HELP procedures to protect vulnerable areas. Establishing contact with other swimmers provides several survival advantages:

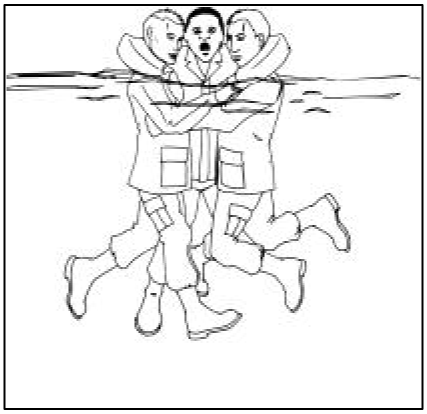


Figure 17

(1) Creates a larger target for search and rescue aircraft

(2) Provides additional warmth in cold water

(3) Improves morale

(4) Reestablishes chain of command

(5) Reduces shock and panic

(6) Provides opportunity to administer first aid

(7) Supports exhausted Marines

REFERENCE(S):

MCRP 3-02C, *Marine Combat Water Survival*